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PROSTHENORCHIS ELEGANS (OLIGACANTHORHYNCHIDA, OLIGACANTHORHYNCHIDAE) AND DIPETALONEMA SP. (SPIRURIDA, ONCHOCERCIDAE) IN SAIMIRI SCIUREUS (PRIMATES, CEBIDAE) IN BRAZIL

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Introduction

The use of nonhuman primates as models in biomedical research has contributed significantly to the development of Medical Primatology, and the growing interest in the biology of these mammals has demonstrated the need for a better understanding of their diseases, especially with regard to zoonoses (Cooper, 1968; Melo and Pereira, 1986; Cubas, 1996). New World primates are hosts to a large number of internal and external parasites, the study of which, in both wild and captive populations is most important in order to (1) determine the consequences of host-parasite interactions, (2) to identify adequate anti-parasitic agents, and (3) to identify infection sources to develop efficient control and prevention programs (Wolff, 1993). Cebids have been identified as hosts to a number of helminths, including *Oesophagostomum* sp., *Strongyloides cebus*, *Trypanoxyuris* sp., *Molineus* sp., *Filariopsis godius*, *Trichuris* sp., *Dipetalonema* sp. and *Prosthenorchis* sp. (Kuntz and Myers, 1972; Rego and Schaeffer, 1988; Wolff, 1993; Cubas, 1996; Diniz, 1997). Despite this, there is little published information on the occurrence and clinical aspects of helminth infections in, for example, the

widely-used model for biomedical research, the squirrel monkey, *Saimiri sciureus*. Here we report on two parasite species found during the autopsy of a wild caught *S. sciureus*. The study is part of a larger project identifying parasites in captive and wild primates in the state of Pernambuco, North-east Brazil.

Material and Methods

A young male *Saimiri sciureus* (Primates, Cebidae), approximately one year old, captured in the state of Amazonas was sent to a private collection in Recife, state of Pernambuco, Brazil. A few days after its arrival, the monkey showed clinical alterations, including anorexia, acute caquexia, prostration and dermatitis and died after a week. The monkey was sent to the Parasitology Laboratory of the Department of Biology, Federal Rural University of Pernambuco (UFRPE) where an autopsy was carried out. Large numbers of filariiform parasites were found in the mesentery and beside the liver. The parasites were collected, fixed in hot alcohol-acetic formol (AAF), and cleared in Amman's lactophenol following the procedure prescribed by Amato *et al.* (1991). They were identified through the descriptions of Webber (1955) and Anderson and Bain (1974). When opening the intestine, helminths were found in the ileo-cecal ostium which was apparently totally obstructed by the parasites, and there was also a severe reaction noted in the intestinal tissues. The cecum and descending colon were partially obstructed. Thirty-two parasites were collected and placed in a recipient in distilled water and cooled until the probosci were extroverted (Amato *et al.*, 1991). They were subsequently fixed and mounted following Machado Filho (1950) and Amato *et al.* (1991), and identified according to the descriptions of Machado Filho (1950), Yamaguti (1963) and Amin (1987).

Results and Discussion

The parasites found in the abdominal cavity were identified as filaria of the genus *Dipetalonema* Diesing, 1861 (Spirurida, Onchocercidae), transmitted by hematophagous mosquitoes. According to Dunn (1968) *Dipetalonema* spp. are one of the most prevalent parasites of squirrel monkeys in Brazil, Peru, Colombia and Panama. Adults are frequently found in the peritoneum and mesentery and associated with the presence of fibrous and adherent exudates. As microfilaria they occur in the peripheral bloodstream, without any associated pathologies or clinical symptoms (Dunn, 1968; Potkay, 1992).

The helminths, found deep in the intestinal mucosa, were identified as acanthocephalans of the species *Prosthenorchis elegans* Diesing, 1851 (Oligacanthorhynchida, Oligacanthorhynchidae). *P. elegans* is a heteroxene acanthocephalan. Cockroaches and beetles are intermediate hosts (Stunkard, 1965; Cubas, 1996), and it has been diagnosed for a number of cebids and callitrichids (Machado Filho, 1950; Kuntz and Myers, 1972; Potkay, 1992; Wolff, 1993; Ferraz *et al.*, 1995; Cubas, 1996). Large numbers can be found without the hosts showing any clinical symptoms, although Ferraz *et al.* (1995) recorded diarrhea and loss of appetite and energy in wild and captive callitrichids as a result of parasitism by *P. elegans*. Dunn (1963) argued that infestations of

approximately 30 to 33 *P. elegans* are sufficient to cause intestinal obstruction; the cause of the demise of *Saimiri* and black-mantle tamarins, *Saguinus nigricollis*, studied in Colombia and Peru. According to Dunn (1968), death by intestinal obstruction provoked by *P. elegans* is not uncommon in recently-captured *S. sciureus* and results from increased parasite loads arising from the stress experienced during capture and transport and due to inadequate installations and changes in diet. The absence of any lesions on any other internal organs indicated to us that intestinal obstruction was also the cause of death in the squirrel monkey we studied. This is the first record of the presence of adult *Dipetalonema* sp. and of death by intestinal obstruction caused by *Prosthenorchis elegans* in a wild caught *Saimiri sciureus* in Brazil.

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PRIMATAS DA COLEÇÃO LÍQUIDA DO MUSEU NACIONAL, RIO DE JANEIRO

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A coleção mastozoológica do Museu Nacional da Universidade Federal do Rio de Janeiro (UFRJ) constitui o maior acervo do gênero na América do Sul com cerca de 90.000 exemplares (Hafner *et al.*, 1997), incluindo vários holótipos e parátipos (Langguth *et al.*, 1997), e representa uma das principais fontes de informações para estudos realizados no país sobre a mastofauna brasileira. A coleção preservada em meio líquido no Setor de Mastozologia contém cerca de 5.500 exemplares representativos das diferentes ordens que ocorrem no Brasil e de algumas ordens exóticas, e tem sido continuamente incrementada pela adição de material obtido em projetos recentes.

Paralelamente à utilização para estudos anatômicos, o material preservado em meio líquido pode fornecer dados que em geral não estão disponíveis nos espécimens taxidermizados. Aspectos da ecologia das espécies representadas, evidenciados pela análise do conteúdo estomacal, dos ecto e endoparasitas, da condição reprodutiva, assim como a necrópsia patológica de espécimens encontrados mortos na natureza, podem ser abordados (Bezerra, 1998). Coleções em meio líquido ainda proporcionam material para estudos histológicos e para preparações especiais do esqueleto (tais como diafanização), possibilitando o estudo de caracteres morfológicos relacionados aos processos de ossificação