

RESEARCH NOTE

Long-Term Patency of Blood Parasitism by *Trypanosoma minasense* and Microfilariae in *Callithrix penicillata* Marmosets (Primates, Callitrichidae), Caught at the Wild and Maintained in Captivity

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Despite the good results obtained with some colonies, many marmosets are still caught in their original habitat. *Callithrix penicillata* marmosets are still found in large numbers in many areas of Brazil. However, systematic studies on *C. penicillata* natural parasitism are needed.

RDR Albuquerque and MP Barreto (1969 *Rev Inst Med trop São Paulo* 11: 394-402) have isolated *Trypanosoma cruzi* from *C. penicillata* by xenodiagnosis. *T. minasense* was firstly described by C Chagas (1908 *Brasil Med* 22: 471), in this same simian. Filaria parasites have been reported in many Neotropical primates. ML Eberhard and C Lowrie Jr (1987 *J Parasitol* 73: 233-234) estimated a 70% parasitism by these nematodes, in Platyrrhini primates as a whole. JH Esslinger (1966 *J Parasitol* 52: 498-502) found microfilariae in 29 out of 93 Cebids. FL Dunn and FL Lambrecht (1963 *J Helminthol* 37: 261-286), through blood inspections of 14 species of Neotropical primates, found 42% parasitism by microfilariae.

Twenty one *C. penicillata* marmosets were trapped at the wild environment and maintained in captivity for 18 months, with the main purpose of studying the parasitism acquired in their natural habitat, considering the possible interference of the natural infections in some experiments, as immunological investigations.

The marmosets were trapped in the vicinities of Felixlândia, State of Minas Gerais, and installed in individual cages, in an isolated room (5m x 4m) provided with wire mesh applied to the window, to avoid insects. In the winter, an electric heater maintained the room temperature near 25°C. The diet consisted in bread soaked in milk, in the morning, powdered dog food embedded in gelatin (LH Pereira et al. 1986 *Lab Anim Sci* 36: 189-190), in the afternoon. On Saturdays and Sundays they were fed on bananas.

Blood was collected through a small puncture in the distal end of the tail, and inspected under microscope directly and after Giemsa stained thick smear and blood films. Blood collection was carried out in the afternoons, between 3 and 4 p.m. These collections were performed in the first days after the animals arrived to the laboratory, and then carried out monthly until the end of the experiment. In some circumstances, blood was also collected in the morning (months 1, 4, 6, 9 and 12).

The xenodiagnosis using Triatomini (*Panstrongylus megistus* and *Triatoma infestans*) was performed for possible infections by *T. cruzi*.

Prior to 18 months, four animals were sacrificed for the search of adult filaria worms. At the end of the experiment, more 17 marmosets were sacrificed; in both circumstances the scheme of MM Wong (1970 *Lab Anim Care* 20: 337-341) was followed.

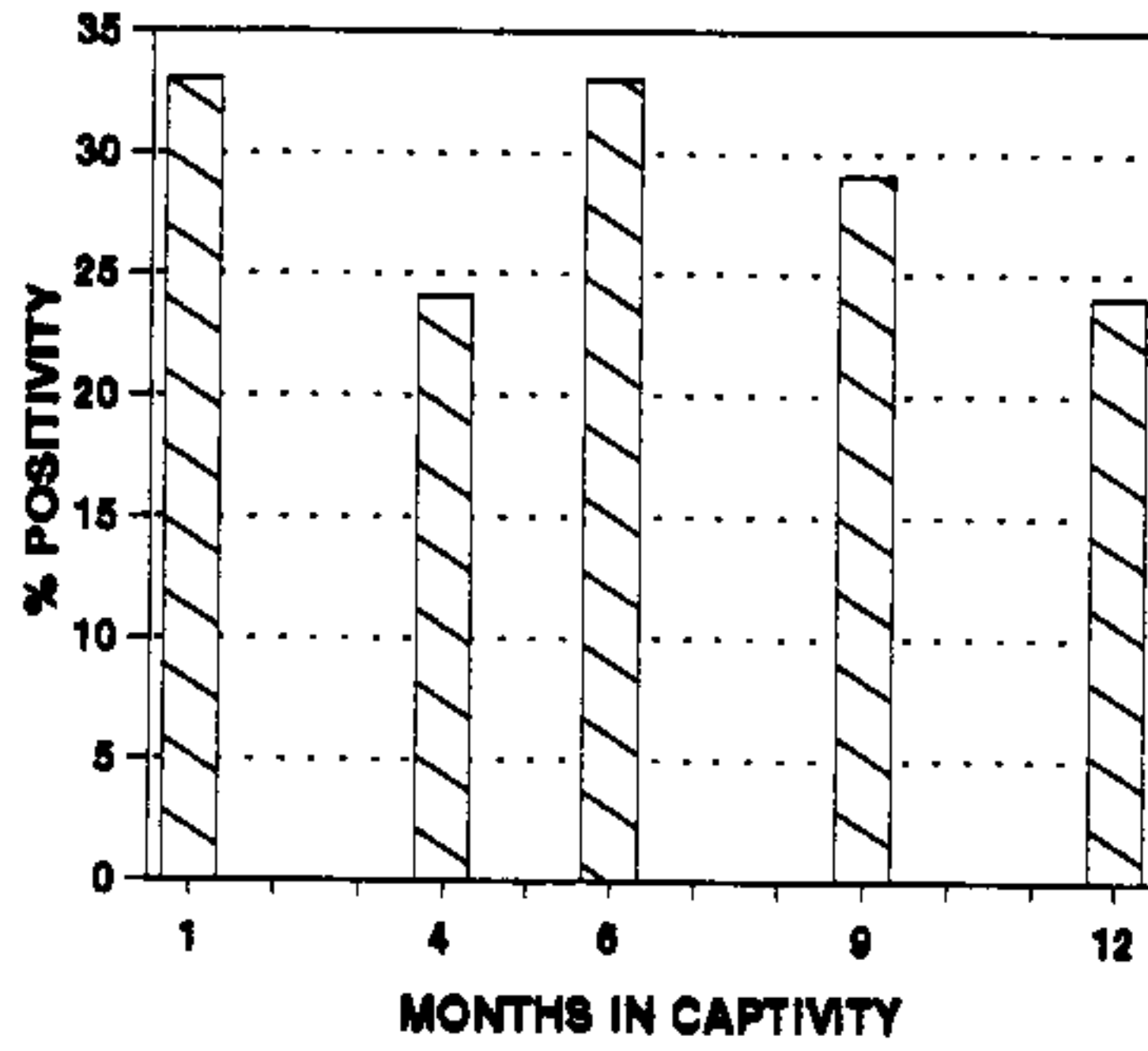
Five out of 21 marmosets showed blood microfilariae, from the beginning to the end of the experiments. There was a strong evidence for the presence of more than one type of microfilaria, but search for adult filariae in the abdominal contents, lungs, and muscles was consistently negative. *T. minasense* was found in 33% of the animals, when examined in the afternoon. It must be said that the positive marmosets maintained the parasitism throughout the experiment; negative marmosets in the first exams have never become positive afterwards. When blood puncture was performed in the morning, the positivity ranged between 24 to 33% (Fig.). These findings are in agreement with those of LM Deane et al. (1973 *Trans R Soc Trop Med Hyg* 67: 424-425), reporting increase of parasitemia in the afternoons. *T. cruzi* was not detected, even through xenodiagnosis.

The findings emphasize the need for a systematic blood inspection of marmosets, when trapped at the wild and removed to captivity, prior to experimental work. The long-term parasitemias by *T. minasense* and microfilariae without spontaneous cure (18 months of observation) point to a possible interference in some experiments, mainly those of immunology.

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Presence of *Trypanosoma minasense* in blood samples (collected in the morning) of *Callithrix penicillata* marmosets.