

## A Naturally Acquired Infection of *Plasmodium brasilianum* in the Marmoset, *Saguinus geoffroyi*

Extensive surveys on primate hosts for *Plasmodium brasilianum* in Central and South America have been recorded by Dunn and Lambrecht (1963, *J. Parasit.* **49**: 316-319), Marinkelle and Grose (1968, *Trop. Geogr. Med.* **20**: 276-280), and Deane et al. (1969, *Rev. Inst. Med. Trop. São Paulo* **11**: 71-86). A review by Young (1970, *Lab. Anim. Care* **20**: 361-367) lists at least 17 species of cebid monkeys in the genera *Alouatta*, *Ateles*, *Brachyteles*, *Cacajao*, *Callicebus*, *Chiropotes*, *Lagothrix*, *Cebus*, and *Saimiri* to be infected in the tropical New World. Callithricid primates (marmosets and tamarins) have not been shown to be natural hosts of *P. brasilianum* or any other species of malaria.

Prevalence rates of malaria in nonhuman primates received over a 35-year period at the Gorgas Memorial Laboratory were published by Porter, Johnson, and De Sousa (1966, *J. Parasit.* **52**: 669-670). They reported that 749 Panamanian marmosets, *Saguinus geoffroyi*, were examined and found negative. An additional 1,015 wild-caught *S. geoffroyi* were checked for blood parasites from January 1966 to December 1968. In August 1968 for the first time a marmoset was discovered harboring a patent malaria infection, *P. brasilianum*. The infected subject was a male adult captured near Pacora in the Province of Panama, 24 miles east of Panama City. Blood smears of 566 *S. geoffroyi* originating from that area have been free of plasmodia.

The parasitemia in the marmoset, upon arrival at the laboratory, was 16,100 per mm<sup>3</sup>. On succeeding days the infection followed a descending course to a minimum concentration

TABLE I. Parasite densities in a naturally acquired infection of *Plasmodium brasilianum* in *Saguinus geoffroyi*.

Day examined	Parasites/mm <sup>3</sup>	Gametocytes/mm <sup>3</sup>	
		Male	Female
1	16,100	50	110
2	9,730	40	80
3	4,110	41	82
4	3,470	70	105
5	2,290	23	23
6	1,980	< 10	20
7	2,660	80	133
8	2,210	22	44
9	1,440	< 10	14
10	1,370	< 10	< 10
11	140	< 10	< 10

of 140 per mm<sup>3</sup> on day 11, when the animal died (Table I). Parasite morphology was typical of *P. brasilianum*, and the asexual stages exhibited a 72-hr cycle in the peripheral blood. The gametocytes appeared normal. Infections were produced upon subinoculation into two other unaltered marmosets and a splenectomized black spider monkey, *Ateles fusciceps*.

The susceptibility of *S. geoffroyi* to experimentally induced *P. brasilianum* was demonstrated by Taliaferro and Taliaferro (1934, *Am. J. Hyg.* **20**: 1-49). The present findings may implicate this primate in the natural transmission cycle of the disease.

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