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Characterization of *Plasmodium vivax* Infections in *Saimiri sciureus* (Squirrel Monkeys)

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ABSTRACT: Infections with a monkey-adapted strain of human *Plasmodium vivax* (Achiote) were established in *Saimiri sciureus* and were serially transferred 26 times in this host species by trophozoite inoculation. Patent infections were produced in all of the 42 unaltered and 1 splenectomized recipients.

Primary infections persisted for as long as 72 days and maximum parasite concentrations reached more than 100,000 per cmm. Relapses occurred, and were usually of shorter duration with parasite densities lower than in the primary attack.

Eleven unaltered *Saimiri* were infected by the sporozoite stages in *Anopheles albimanus* derived from *Aotus trivirgatus* carrying this vivax strain. Although prepatent periods were longer than for trophozoite induced infections, most of the characteristics of the parasitemias were similar.

Oocysts were demonstrated in *Anopheles albimanus* and *A. aztecus* following feeding upon several *Saimiri* with trophozoite induced infections.

It has been shown that infections with *Plasmodium vivax* can be induced in 5 species of New World monkeys by the trophozoite and sporozoite stages of the parasite. The most widely used experimental host is *Aotus trivirgatus* (the night monkey); vivax strains are easily adapted and maintained in this model (Young et al. 1966; Porter and Young 1966; Hickman 1969; Baerg et al. 1969; and Ward et al. 1969). Vivax malaria also has been transferred from *Aotus* by trophozoites and sporozoites to *Saguinus geoffroyi* (the Panamanian marmoset) (Porter and Young 1966; Baerg et al. 1969; Baerg et al. —unpublished; and Porter 1970) and to *Ateles fusciceps* and *A. geoffroyi* (spider monkeys) (Baerg et al. 1969; Baerg et al.—unpublished; Young and

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