Correspondence

To the Editor

Plasmodium vivax tissue stage in Saguinus geoffroyi
Sir—Aotus, Ateles and Saimiri monkeys, and Saguinus marmosets (family Callithricidae), will support Plasmodium vivax infections induced by sporozoites (Baerg, Porter and Young, 1969; Young, Baerg and Rossan, 1971). Exoerythrocytic (EE) development of vivax malaria has been observed in the above New World primates with the exception of Saguinus (Draper et al., 1971; Collins et al., 1973; Baerg et al., 1974; Rossan and Baerg, in press). We now have demonstrated an EE form in the marmoset and herein report this finding.

A total of seven Saguinus was inoculated intrahepatically with vivax sporozoite suspensions derived separately from Anopheles albimanus after feeding on Aotus donors. The Achiote and Darien parasite lines of Panamanian origin were used, the former in six of the seven tests. Fourteen biopsies were taken from the marmosets between seven and 33 days after introduction of the mosquito stages. Comparative specimens also were obtained in three of the experiments, from four co-recipients (one Aotus, one Saimiri, two Ateles). An average of 300 sections, at 5 μm each, were cut per animal.

Upon examination of the Saguinus material, a single schizont (Achiote strain) was identified from a seven-day biopsy; a nine-day sample from the same host, the only subject inoculated in that trial, was negative and a patent parasitaemia did not occur over a 19-day period. The EE body, measuring 14.0 × 17.5 μm and evidencing slight shrinkage, was lightly stained in relation to surrounding tissue. The cytoplasm was vacuolated, evenly distributed, and contained several small, dark granules. Although its size was within the range we have seen at seven days in New World monkeys, the morphology suggested arrested growth.

Among the remaining marmosets, none yielding EE or blood stages, one was killed at seven days and five were followed for 33 to >100 days. Infectivity of the Achiote sporozoite inocula in two of these tests was verified by patency in the companion Saimiri and Ateles and (in Saimiri at nine days) the presence of the hepatic phase.

We are, etc.,

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References


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