Reprinted from
TRANSACTIONS OF THE ROYAL SOCIETY OF TROPICAL MEDICINE AND HYGIENE.
Vol. 63. No. 5. pp. 686-687, 1969

PLASMODIUM FALCIPARUM INDUCED IN THE SQUIRREL MONKEY, *SAIMIRI SCIUREUS*

SIR,—The susceptibility of various South American non-human primates to human plasmodia has been noted since the observation by YOUNG, PORTER and JOHNSON (1966) that infections with *Plasmodium vivax* could be attained in the night monkey (*Aotus trivirgatus*). One of the primates shown to be susceptible to human malarias was the squirrel monkey, *Saimiri sciureus* (DEANE, FERREIRA NETO and SILVEIRA, 1966). They infected a splenectomized *S. sciureus* with *P. vivax* of human origin.

We have infected *S. sciureus* with *P. falciparum*. The animal, an adult male, though collected in Panama, was probably derived from a line of Colombian squirrel monkeys that escaped during transport. No naturally acquired malaria was detected, but blood-film examination did indicate infection with both *Trypanosoma cruzi* and unidentified microfilariae. A night monkey (*A. trivirgatus*), bearing the passage line of the Uganda-Palo Alto strain (GEIMAN and MEAGHER, 1967) of *P. falciparum* served as a donor. Approximately 10^9 parasites, contained in 4 ml. of heparinized blood, were inoculated intraperitoneally into the intact squirrel monkey. No immunosuppressant drugs were administered. Blood films were prepared daily and stained with Giemsa.

A patent infection was first detected on the 5th day after inoculation. The parasitaemia increased to a peak of 2210 per c.mm. on the 12th day of patency, and then declined. The last parasite of the primary parasitaemia was seen on the 21st day of patency. A few gametocytes were seen on the 3rd day. After a subpatent period of 49 days, parasites reappeared for 3 consecutive days; since then the blood smears have been negative for 15 days.

The normal squirrel monkey thus appears to be a moderately susceptible host to a monkey-adapted strain of *P. falciparum*. We expect to make further use of *S. sciureus* as experimental hosts for human malaria.

We are, etc.,

MARTIN D. YOUNG AND RICHARD N. ROSSAN
Gorgas Memorial Laboratory
Apartado 6991
Panama 5, Republic of Panama

5 *August* 1969

REFERENCES

DEANE, L. M., FERREIRA NETO, J. & SILVEIRA, I. P. S. (1966). *Trans. R. Soc. trop. Med. Hyg.*, **60**, 811.
GEIMAN, Q. M. & MEAGHER, M. J. (1967). *Nature*, **215**, 437
YOUNG, M. D., PORTER, J. A. JR. & JOHNSON, C. M. (1966). *Science*, **153**, 1006.

This work was supported in part by the U.S. Army Medical Research and Development Command, Department of the Army, research contract DADA 17-69-C-9126. This paper is number 678 from the Army Research Program on Malaria.