

PUBLIC HEALTH

Simian Malaria Danger

Humans can become infected with simian malaria via mosquito bite, demonstrating that monkeys are closer to man than even scientists have believed—By Faye Marley

► U.S. FIGHTING MEN with pet monkeys in Viet Nam might well have them examined for malaria.

Proof that monkeys are closer to man than even scientists have believed is now demonstrated by the discovery that humans can become infected with simian malaria naturally. "Naturally" means through a mosquito bite, in this case an *Anopheles* mosquito.

Two years ago SCIENCE SERVICE interviewed Dr. G. Robert Coatney, chief of the laboratory of parasite chemotherapy at the National Institute of Allergy and Infectious Diseases, Bethesda, Md., concerning experimental transmission of malaria from monkey to man and man to monkey. At that time Dr. Coatney said "it would be strange" if the transfer does not occur at least occasionally in nature.

At that time 20 attempts had been made to transmit human infections to rhesus monkeys without success.

Then this spring a Silver Spring, Md., man who had been in Malaya as a surveyor for the U.S. Army Map Service, came home with malaria that turned out to be a natural infection caused by a species of malarial parasite, *Plasmodium knowlesi*, which causes the disease in monkeys.

A sample of the man's blood was inoculated into a healthy Caucasian volunteer at the U.S. Penitentiary in Atlanta, Ga., whose blood was then injected into six additional volunteers, including one Negro and five Caucasians. The blood of the first three volunteers was then injected into three rhesus monkeys. All the volunteers were infected but cured. The monkeys died of overwhelming malaria infections.

Asked about the possible danger to American soldiers in Viet Nam, Dr. Coatney told SCIENCE SERVICE he would not "be surprised" if this type of malaria applied to them. Workers are being sent to Cambodia to investigate the type of mosquito infecting monkeys.

Reporting the study in *Science*, 149:865, 1965, Dr. Coatney and three collaborators concluded:

"The fact that humans can become infected with simian malaria in nature is of special significance at this time because of its possible importance to the program of worldwide malaria eradication."

Dr. Coatney said that the discovery was bound to slow up the eradication program. Drs. William Chinn, Peter G. Contacos and Harry R. Kimball assisted in the study at the national institute.

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MEDICINE

Control Fatal Anemias

► NEW TECHNIQUES are being used to help control the fatal blood deficiency disease called Cooley's anemia and other anemias by researchers at Cornell University Medical College.

The scientists are studying certain minerals in relation to the massive blood transfusions given to keep these dangerously ill persons alive.

The tragic paradox is that although the transfusions keep Cooley's anemia under control, so much additional iron and the tiny but potent amounts of other minerals being added to the body cause serious side effects.

The researchers will make use of some of the new techniques for measurement, including "atomic absorption spectrophotometry." This consists of the activation of the atomic particles in the metal under study by means of a very high temperature. The free atoms that result are measured by spectrophotometry.

Another part of the study, to be conducted in both humans and animals, will use small amounts of radioactive metals to investigate possible disturbances in mineral absorption.

The Cornell researchers will try to deter-

mine whether aberrations in mineral concentrations are causing abnormalities in protein synthesis, including the synthesis of enzymes.

Dr. Marion E. Erlandson, associate professor of pediatrics at the medical college, and associate attending pediatrician at the New York Hospital, told SCIENCE SERVICE that she and Dr. Julius Golubow will be working under a three-year grant of \$130,000 from the John A. Hartford Foundation, but that the work probably will take longer.

They will study not only patients whose problems are caused by blood transfusions, but also those whose primary illnesses are such congenital conditions as sickle cell anemia.

Greeks, as well as Negroes and other dark-skinned races, have the sickle cell trait, which means that many of them have red blood cells with a sickle shape. This is a hereditary disease in which red blood cells are destroyed which the bone marrow cannot replace.

Cooley's anemia is also hereditary. It is also called Mediterranean anemia because it afflicts mostly persons of Mediterranean ancestry.

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PSYCHOLOGY

Coddling Found to Be Problem of Hemophiliacs

► BLEEDING may be less of a handicap to hemophiliacs than emotional crippling due to overprotection.

So conclude Dr. Alfred H. Katz and Jacqueline M. Husek of the University of California at Los Angeles, School of Public Health, from their survey of hemophiliacs.

More than 1,000 victims of the hereditary defect were studied with particular emphasis on vocational and social adjustment. The age range of the group was from 16 to 81.

The hemophiliac child often withdrew from life, never finished school or held down a job if his mother fostered the idea that he was a fragile cripple who might bleed to death from a pin scratch, the findings indicated.

Such individuals fell into the survey's "unsuccessful" group. Successful patients were those who had been employed for seven months or longer. Severely afflicted successful patients often rated their health excellent. Those lightly diseased but unsuccessful tended to rate their health poor.

Twenty-one percent of the successful group had attended college, and nine percent earned advanced degrees.

Only thirty-one percent had not completed high school. On the other hand more than half of the unsuccessful group did not complete high school, and forty percent had never attended.

There was no association found between the severity of the disease and the patient's occupation. There were doctors, lawyers, typists and steelworkers in both high and low severity groups.

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Southern Illinois University

ULTRASOUND SEPARATES CELLS—Charles Gregg, a graduate student in microbiology at Southern Illinois University, is using ultrasonic waves to separate clusters of yeast cells in order to facilitate population counts of the individual cells.