

MEDICINE

Gnats Carry Disease

Scientists organize to fight onchocerciasis, a little-known disease found in Guatemala and Mexico. The infected area crosses the Pan American highway.

➤ THOSE who hope to take post-war vacation jaunts over the Pan American highway to our southern neighboring republics will be passing through the haunts of a little-known disease called onchocerciasis.

Although there is small danger to tourists merely passing through the infected areas in Guatemala and Mexico, scientists are now organizing a fight aimed at control or eradication of the disease for the protection of the natives and travelers who may stop in the vicinity.

The only spots on the American continents known to contain the gnat-borne illness are one small area in the State of Oaxaca, two small areas in the State of Chiapas in Mexico—not far from the Guatemalan boundary—and two small areas in central Guatemala. The largest area is about 75 miles in diameter in the State of Chiapas, Mexico. And the present surveyed route of the Pan American Highway runs right straight through it. The disease is showing a tendency to move slowly northward into other areas.

The buffalo gnat, which carries it, is common in much of the United States as well as in the areas affected and nearby regions. Biting an infected per-

son, the insect sucks in blood and the disease-causing filaria parasites. She then bites a healthy person, depositing the little worms in the skin.

Soon a nodule appears and the microscopic larval worms begin to grow, become adults about an inch long, and breed young. Adults never leave the nodule, but the young get into the blood stream and the cycle is complete, ready to begin again.

After infection of the blood stream rheumatic symptoms appear in the infected person, legs become enlarged, and sometimes epilepsy results.

In some parts of the small area affected, from 40% to 60% of the natives are reported to be infected.

Strangely enough, white men who become infected do not show the same tendency to become blind as do the natives. This may be accounted for by the fact that white men who are better nourished can withstand more, says Dr. Frank Roberts, professor of preventive medicine at the University of Tennessee, who has recently returned from a two-month stay in the onchocerciasis area. No other explanation has been found by prominent Mexican scientists who have been studying the disease.

"It looks to me," Dr. Roberts comments, "as if the route of the new road should be changed or else it will become necessary to make some arrangements for people to close up their cars and hurry through the area to keep from being bitten. To stop for lunch or to fix a flat would be an open invitation to the gnat to come out and eat too."

This phase of the situation was first emphasized in a paper published in the *Boletín de la Oficina Sanitaria Panamericana* in August, 1942. The matter was also fully considered at the Eleventh Pan American Sanitary Conference, held at Rio de Janeiro in September of the same year.

The Pan American Sanitary Bureau, as well as the Mexican and Guatemalan health authorities, have a solution different from Dr. Roberts'. They are planning intensive studies of the disease with a view to conducting an effective

campaign which will serve either to eradicate it or at least control it. For this purpose, the Pan American Sanitary Bureau, which is the international health organization of all the American Republics, is now organizing a group of sanitary engineers, physicians, veterinarians, entomologists and other scientists to go into the area to make a thorough study of the disease. Five or six field parties will be made up, with headquarters in Guatemala.

Studies will include work on how the illness is transmitted and how it may be best combated. It is now thought that no other animal besides man can carry the disease.

An effort will be made to improve methods of treatment. Better laboratory facilities will be established by the disease fighters from the Pan American Sanitary Bureau. At present, treatment consists of cutting off the nodules, which kills the adult and causes eventual disappearance of the young from the blood stream.

An extensive survey will also be made of the geographical extent of the disease, of the factors causing its spread, and of control methods.

A further effort will be made to co-ordinate these investigations with similar work which has been or may be conducted in West Africa, which is the original source of the disease.

The presence of onchocerciasis has long been known, having been identified as far back as 1915 by the famous Guatemalan investigator, Robles, and only a few years afterwards in Mexico. The condition was the subject of wide discussion at the Second Pan American Conference of National Directors of Health in 1931.

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