Malária
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The Insect Host of Forest Malaria
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I see in the Proceedings of the Entomological Society of Washington that Mr. F. Knab read a paper, “The Dependence of Disease Transmission by Blood-Sucking Insects Upon Habits”. When Dr. L. O. Howard cited a paper of mine, Mr. Knab declared that he had just discussed this paper from his present viewpoint with Dr. Dyar and they had come to the conclusion that I had misinterpreted the facts. A similar statement is repeated in a paper in the Journal of Economic Entomology. To explain this singular conclusion Mr. Knab thinks it highly probable “that the men observed by Lutz already harbored malaria in a latent form when they came into the region and that the exertion and exposure incident to the work caused the irruption of the disease.”

If such an etiology of a typical epidemic was possible, which no competent person would admit, the people living here and interested in the case would not have waited for two laymen to think of it and I would not have troubled to find a satisfactory explanation for a puzzling fact. Mr. Knab however continues:

“It is a well known fact that in the tropics most persons apparently in good health have latent malaria.” Leaving alone the fact that the place of observation and the places where the patients came from have not a tropical climate, the statement itself is utterly erroneous and about equal to the statement that in hot countries everybody is suffering from liver disease. After excluding typhoid fever and other pyrexias with different etiology, it has become evident that malaria is very much localized and by no means generally prevalent, even in tropical countries. In fact it is wanting in many places where there are Anophelidae, which are by no means ubiquitous.

My paper on forest malaria has been everywhere accepted without contradiction, and since I wrote it the facts have been confirmed by several people. Dr. Chagas observed another epidemic under absolutely similar conditions and near the same place and authorized me to state that he is convinced of the correctness of my explanations, which is of interest, as he has observed several epidemics of malaria in different places and studied the Anophelidae found. I myself have seen another
epidemic and there are some more on record showing the occurrence of epidemic malaria in places where there are plenty of epiphytic Bromeliaceae and no swamps. It is now a generally recognized fact in this country that all the great works of engineering, where hundreds and thousands of workmen have to sleep in the open air, will lead to epidemic outbreaks of malaria, even in quite uninhabited regions where there are swamps due to the periodical inundation of the rivers. The observations in the uninhabited mountain woods of the coast range are quite analogous and just as certain, with the difference that the higher places get infected later and never in the cold season. On the other hand the very same workmen have done the same work in the dry Campos regions and in the woods of the interior where there are no Bromelia Anophelidae without the slightest malarial manifestations.

Of course a few chronic malaria patients must be present and these will be found amongst the workmen who previously took part in similar work, but these people, far from being quite healthy, could be picked out and excluded, as I proposed long ago.

In this country, Cellia argyrotarsis is much more responsible for the spreading of malaria than albimana. Both the species are frequent in uninhabited places and only come near the houses when these are built in swampy regions, excepting very few stragglers. That they do not want or prefer human blood is shown by the quite well known fact here that they prefer the horse to the rider and large numbers of them might be caught on horses by persons who do not get bitten themselves. The same is true for all other species of Anophelidae.

Now it is quite natural that the workmen in uninhabited places where big game is rare will attract the mosquitoes, and if they stay long enough in the same place the epidemic will follow the increase of the infection in the mosquitoes, which themselves augment in number through the facility of alimentation. It is a well established fact that a species might be an excellent intermediate or definite host of a parasite quite new to the country because the host for the other stage has only been introduced recently.