

that Laveron first announced the discovery of the malarial parasite. Five years later Golgi, an Italian, made out the life history in three varieties in the corpuscles of man. Shortly after this, Manson, now of London, published observations and reasons for believing that the mosquito propagated it, and in 1896, Ross, working in India, proved definitely that the mosquito was the actual factor in propagating the disease. Before the discovery of the parasite and the tracing of its life history, it was looked upon as a miasmatic disease due to the inhalation of vapors arising from marshes, swamps, etc. Even after the parasite had been discovered, no measures could be devised until its life history had been worked out and the mosquito incriminated.

Apart from the prophylactic use of quinine, the preventive measures against malaria are to-day directed towards the destruction of the mosquito, or by attempting to prevent their biting. Mosquitoes, of course, bite at night and by screening houses to keep out mosquitoes, it has had a certain amount of value in protecting individuals from infection. The sickness and mortality rates from malaria where anti-mosquito measures have been carried out, are markedly reduced. In the Panama Canal zone—a former hotbed of the disease—since the Americans have taken over the administration of this section, malaria is becoming uncommon.

Just a few words on yellow fever, or yellow jack. Yellow fever is still a name to conjure up visions of disease and death along the coasts of the Caribbean Sea and West coast of Africa. We do not know yet what the virus of this disease is, but in 1901, a group of United States Army surgeons, working in Havana, Cuba, discovered that the *stegomyia*, a species of mosquito, was the sole means of propagating the disease. Since then the disease has been successfully checked only by anti-mosquito measures, and with these anti-mosquito measures the old days of "shot-gun" quarantine, have passed away. It was the former custom for the authorities to establish an armed guard about an infected district and this has been called "shot-gun quarantine," but they did not stop the mosquitoes from going in and out, and so infection frequently spread. Yellow fever has entirely disappeared from the Panama Canal zone and from Havana, by anti-mosquito measures. These localities were formerly hotbeds of the disease.

To proceed to another group of insect-carried diseases which for the past few years have been receiving much attention, that is, the so-called trypanosomes which attack both men and animals. In man the trypanosome is a blood parasite, and is the cause of the so-called sleeping sickness. This has, within the past ten years, depopulated large tracts of Africa, some localities having a mortality of half a million from this disease alone. The trypanosome disease of cattle and horses in Africa, or tsetse fly disease, is nearly always fatal once infection occurs. Another fly is responsible for the disease in India known as Surra. All these trypanosomes are propagated by certain biting flies. Thus the sleeping sickness in man is caused by the fly known as *glossina palpalis*. So far, this disease has never been known to occur apart from areas in which this fly is found. A related fly, the tsetse fly is responsi-