

bad beginning was destined to be the prelude to a very remarkable campaign in preventive medicine—a campaign the success of which seemed problematical at the outside but which nevertheless achieved a notable triumph. The Army Medical Corps made a great effort to clean the malaria-infested country; it reduced the breeding places of the *Anopheles* in a most remarkable way; carried out valuable schemes of sanitation and brought down the high incidence of Malaria among the troops to a figure which was certainly not anticipated in earlier days.

Not less menacing than the mosquitoes to the success of the allied armies were the rat-fleas. Bubonic plague had for centuries been the chief enemy of armies, as the history of older wars clearly proves. Its infectious character rendered it not only deadly but demoralizing. As it is well known the method of preventing plague lay either in destroying rats or in destroying the fleas. The latter course was not possible, for the rat-flea is at no period of its existence easily attacked on a great scale. Fleas like flies pass through a larval stage, but the grub is deposited in dry earth or other suitable location and cannot be got at. The only method, then, of attacking plague was to control the migration of rats, to destroy as many of these as possible and to segregate all persons affected with the disease. The medical authorities in India, at the European ports, and in control of the health of the armies, cooperated to act as a detective force against this most deadly enemy. The utmost care was taken to ensure that no case of plague was shipped. Inspectors were charged with the duty of looking out for signs of infection among rats and efforts were made to kill rats where ever possible. The areas visited by the disease were rapidly placed under surveillance. When the immense difficulties of the early years of war are taken into consideration it will be evident that this silent warfare against rat-flea and plague constitutes a great triumph of medical and sanitary science.

Next comes the tsetse fly which proved a great menace to the armies in the East African campaigns. The disease caused by the bite of this fly, though not a menace to human life, constituted in a true sense a threat to the soldier and a pest of war by reason of its effects upon transport animals and animals employed to draw guns and other weapons. Like the flea, the tsetse fly breeds here and there, and its breeding places could not be dealt with on any considerable scale to combat the disease it causes. Investigations were therefore begun into the state of the large fauna of the "fly" districts. These investigations rapidly showed that the big game was in fact infected by the trypanosomes of tsetse fly disease and that it acted as a reservoir of these germs. So campaign against the big games in the area infected with the disease and indirectly against the tsetse fly was begun.