

TRANSMISSION OF MOSQUITOES BY AIRPLANES

IT is an axiom that human disease travels no faster than means of human communication. With the increased speed of communication due to steamships versus sailing vessels, express trains, and most recent of all, airplanes, the spread of disease has become easier, and it is a trite saying that we are now in close touch with every part of the known world—a matter of days and hours, when formerly it was months and weeks.

The discussion of the transmission of disease by airplane by the Permanent Committee of the International Office of Public Hygiene, was mentioned in our columns.¹ It was again an object of discussion at the meeting in Paris, May, 1931. It was recognized that though the conditions existing in the various countries were widely diverse, the provisions adopted corresponded to the general needs essential to sanitary defense and were a guarantee against any arbitrary action concerning international air relations, though that would not exclude legitimate intervention in times of immediate danger. The danger of infected people traveling by airplane has been lessened by detention and observation before embarkation, but there still remains the possibility of carrying infected insects, particularly mosquitoes. We are in close communication with the West Indies, the west coast of South America, Central America, Cuba, Panama, Mexico, and Jamaica, and there are three regular lines, daily and triweekly, between Miami, Fla., and the countries to the south of us, some of which were formerly heavily infected with yellow fever, and practically all of which harbor the yellow fever mosquito.

In view of the present situation and the certainty of increased airplane traffic in the future, officers of the U. S. Public Health Service have carried out a series of experiments on the transmission of mosquitoes by airplane.² From September 12 to September 18, 1931, more than a hundred inspections of planes from the southern countries were made on arrival at Miami. Twenty-nine mosquitoes were captured, the majority of which were non-disease-bearing, though several times *Aedes aegypti* were found, and once an *Anopheles*, showing that under natural conditions mosquitoes are carried considerable distances in planes.

To study the matter further, captured mosquitoes were stained with eosin and released in planes just before leaving.³ Of 40 mosquitoes, nearly all *Aedes aegypti*; released in the cabin of a Fokker at San Juan, 13 were recovered in Miami, the distance traveled being 1,250 miles and time 9 hours and 53 minutes. In a second experiment, of 30 stained mosquitoes, 3 were captured on arrival at Miami,

and one was active during the trip, biting the radio operator when at an elevation of 3,000 feet. In a third experiment the pilot was bitten while in flight, and 6 mosquitoes were recovered at Miami. Altogether, in 3 experiments some 100 stained mosquitoes were released in the cabins of airplanes, and 22 of these were recovered in Miami, the distance traveled being 1,250 miles and the average time of the trip 10 hours and 10 minutes. There can therefore be no doubt of the potential danger of the carrying of infected mosquitoes by airplanes. However, planes may be freed from mosquitoes at points of departure by simple spraying, and the writers of the article quoted believe that there is no obstacle to the efficient treatment of airplanes for the destruction of mosquitoes and thus avoid the retardation of air traffic.

REFERENCES

1. The Airplane and Yellow Fever (editorial), *A. J. P. H.*, 20, 11: 1221 (Nov.), 1930.
2. *Pub. Health Rep.*, Nov. 20, 1931.
3. *Pub. Health Rep.*, Nov. 13, 1931.

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