

CURRENT PERIODICAL COMMENT AND WORKING NOTES

Observations on the Range of Flight of Flies.

C. Gordon Hewitt, D.Sc., F.E.S., Dominion Entomologist, writes as follows in No. 66 of *Reports to the Local Government Board*, London, England:

The importance of accurate information with regard to the distance that flies can travel, either by their own exertions or with the aid of the wind, is realized by those who have under consideration the question of the carriage of infection by these insects and also of the danger and nuisance due to the proximity of breeding places. Attention was called to this question in my monograph on *M. domestica* (1909, pp. 364-365) where the discovery of *M. domestica* $1\frac{1}{2}$ to 2 miles from any house or likely breeding place was recorded and also the occurrence of *M. domestica* at an altitude of 80 feet above the ground. Reference was made to Dr. M. B. Arnold's experiments in 1906 in which three hundred flies were caught and marked with a spot of white enamel on the back of the thorax; these were liberated and five were recaptured at distances varying from 30 to 190 yards from the point of liberation.

An extensive series of experiments were more recently made by Dr. Monckton Copeman and Messrs. F. M. Howlett and Gordon Merriman and recorded in Report No. 4 of this series of reports on "Flies as carriers of infection." These experiments were carried out in the neighborhood of a small village, Postwick in Norfolk, where an unusual plague of flies were experienced. The flies to the number of several hundreds at a time were caught in a net and were marked by being placed in a paper bag containing finely powdered colored chalk of which that of a yellow color was found to afford the best results. After liberation they were recovered from human habitations at various periods within forty-eight hours, and at distances ranging from 300 to 1,700 yards from the point of liberation, the location apparently depending, to a considerable extent, upon the direction of

the prevailing winds. The locality in which these experiments were carried out was of a rural character and consisted of open country.

Dr. Howard records an experiment of J. S. Hine, who caught 350 flies and marked them with gold enamel before liberation. Flies so marked were observed about dwellings from 20 to 40 rods (600 to 1,200 yards) from the point of liberation up to the third day. Hine states: "It appears most likely that the distance flies may travel to reach dwellings is controlled by circumstances. Almost any reasonable distance may be covered by a fly under compulsion to reach food or shelter. When these are close at hand the insect is not compelled to go far and, consequently, does not do so." The experiments recorded in this paper, however, show that flies will travel a considerable distance even where houses occur. The same author also mentions that Prof. S. A. Forbes had experiments carried out in which it was shown that marked flies spread naturally for at least a quarter of a mile.

In view of the results of these experiments it seemed advisable that others should be carried out under city conditions, where so many factors are present which may affect the flies' ability and desire to travel. The following is an account of a short though interesting series of experiments which were carried out in the City of Ottawa, Ont., under my direction, by Mr. G. E. Sanders, B.S.A., Field Officer of the Division of Entomology, who also devised the excellent method of marking the flies.

Locality of Experiments.—By way of introduction it may be remarked that an important reason for the choice of the locality in which these experiments were carried out was that the results might be useful as indicating whether the presence of a smallpox hospital on the island upon which the flies were liberated constituted a menace to the public health of the neighboring district.