NOTE ON THE COLOUR-PREFERENCE OF FLIES[1].

By EDWARD HINDLE, B.A., Ph.D., F.L.S.,
Magdalene College, Cambridge.

(*Assistant to the Quick Professor of Biology, Cambridge.*)

In the course of our investigations on the biology of flies, during the year 1912, a certain number of experiments were performed in order to ascertain whether house-flies possess any colour preference. In the case of mosquitoes, Nuttall (1901) has shown that these insects have a very well-defined preference for certain colours. When a number of boxes, lined with different coloured materials, were placed in a tent containing mosquitoes, the latter occurred most frequently on navy-blue, and, in descending order, on dark red, brown, scarlet, black, slate-grey, dark green, violet, leaf-green, blue, pearl-grey, pale green, light blue, ochre, white, orange, and yellow. Very few insects indeed were found to rest on the last seven colours.

A French observer, Fé, published the statement that, having noticed that flies did not rest upon walls covered with blue paper, he blue-washed the walls of his milk houses and found that insects did not visit them. Galli-Valerio (1910), who refers to Fé's statement, conducted a few experiments on this subject.

Different coloured pieces of paper of equal size were pasted over the walls of a large glass box, and afterwards a number of house-flies were introduced. The position of the cage was changed several times, and in each position the number of flies resting on the respective colours was carefully counted. As a result the flies were found to rest on each colour in the following numbers:—Clear green, 18; rose, 17; clear yellow, 14; azure, 13; clear red, 10; dark grey, 9; white, 9; dark red, 8; black, 7; pale grey, 5; dark yellow, 5; dark green, 5; red, 4; orange, 3; clear brown, 3; pale rose, 3; very clear green, 2; blue, 1; pale violet, 1; dark brown, 1; lemon yellow, 1.

Galli-Valerio notes that 87 flies rested on clear colours and 52 on the dark ones. From these results it seems that, although very few

[1] Reprinted from the *Reports to the Local Government Board on Public Health and Medical Subjects* (1913, New Series, No. 85, pp. 20–41, with the permission of His Majesty's Stationery Office).

flies settled on the blue, the closely-related colour, azure, was one of those the most visited.

These results seemed so uncertain that it was decided to perform some experiments on the subject.

A strip of cardboard, 24 inches long and 7 inches wide, was painted with bands of colours 4 inches wide. The whole was then covered with a sticky substance so that any flies which settled on the card were caught. Later, it was found more convenient to cover the front of the coloured strip with transparent sticky paper, through which the colours were quite visible. The relative positions of the bands of colour were changed from day to day, and the flies that had accumulated on them removed and counted.

The results were as follows; the figures indicating the number of flies caught on each colour.

Date	Blue	Yellow	Black	Red	White	Green
20. VII. 12	24	47	21	37	41	55
22. VII. 12	8	8	5	9	29	30
23. VII. 12	33	34	16	23	28	27
24. VII. 12	16	20	12	17	9	10
25. VII. 12	22	19	20	20	22	24
26. VII. 12	17	23	10	15	23	25
27. VII. 12	17	16	21	17	13	14
29. VII. 12	25	25	22	26	10	12
30. VII. 12	8	14	18	16	9	10
31. VII. 12	13	13	14	8	5	7
1. VIII. 12	11	17	15	15	25	36
2. VIII. 12	12	22	22	18	16	19
3. VIII. 12	18	13	19	21	10	4
Total	224	271	215	242	240	273

A comparison of the total number of flies collected on each colour clearly shows that, under the conditions of the experiment, flies do not display any marked colour preference. Therefore, it seems unlikely that the adoption of any particular colour for the walls of houses and stables will have any effect on the numbers of flies entering them.

REFERENCES.

GALLI-VALERIO, B. (1910). L'état actuel de nos connaissances sur le rôle des mouches dans la dissémination des maladies parasitaires et sur les moyens de lutte à employer contre elles. *Centralbl. f. Bakt.* Orig. LIV. 193–209.

NUTTALL, G. H. F. (1901). The Influence of Colour upon *Anopheles*. *Brit. Med. Journ.* II. 668–669.