

idea was supported by my observations in the state of the reproductive organs of a portion of the flies found and dissected during the winter months.

The last contribution to our knowledge on this subject is the report of Copeman and Austen, quoted above, on the results of an examination of the species of flies collected in houses, etc., during the winter months. They state: "In conclusion, it would appear that the customary explanation of the perpetuation of the house-fly from year to year has now been fairly tested, and that the evidence obtained fails to support it. If, however, during the season of greatest fly-prevalence, a selection were made of several centres in which house-flies were present in sufficiently large numbers, it would be worth while during the following winter to endeavour to discover whether living pupæ could be found in any considerable quantity in the local breeding-places."

One serious objection prevents my agreement with their conclusion. The evidence contained in their report points to the fact that practically all the specimens of *M. domestica* that were received were caught in an active condition, and there is no evidence submitted to show that any of their correspondents found these flies as a result of searching for them in the hiding places from which Jepson and I have recorded them. In view of this objection the facts submitted by Copeman and Austen cannot be fairly considered as failing to support the explanation usually given. I may say I have repeatedly applied the test they suggest, and in no case have I been able to find either in England or Canada living pupæ of *M. domestica* under outdoor conditions during the winter. Nor has it ever been possible in my breeding experiments in Canada and in England to carry the insect through the winter in the pupal state. In the experiment described in the first part of this paper a special effort was made to find living puparia among several thousand examined, and not a single healthy puparium was discovered; all were either empty or had failed to develop. Had specimens been overwintering in the pupal condition, it is reasonable to expect that living puparia would have been found in the early part of May, as the adults could not have emerged earlier than that date under Ottawa conditions. It is a matter, however, that requires more observations in different localities, but until evidence is secured