

THE CABBAGE ROOT MAGGOT (*Hylemyia brassicae* Bouche) ATTACKING CARNATIONS

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The last week in February, 1927, a bundle of carnation cuttings from New Westminster, was submitted to the Department of Zoology of the University with an enquiry as to the nature of certain insects which were injuring the stems.

The individual plants were from six to eight inches long, well formed, with thick stems and with sufficient masses of single roots to ensure healthy growth. The stems and in some cases the entire root system had been attacked by gnawing insects of some sort which were not present at the time.

Upon request, the grower forwarded a large bundle of plants a few days later, with the information that the greater part of his bed of cuttings had been destroyed. In these plants the injury consisted of tunnels up through the centre of the stem, involving, sometimes, the greater part of it, out to the periphery. In some cases, only the main part of the stem above the roots had been eaten away; in others, roots also had been destroyed. In a few cases the insect had practically bored out the carnation cutting leaving only a thin fringe of bark. In all cases the



THE CARNATION MAGGOT

A. shows normal stem. B.B. shows stem tunneled and broken by maggots. C. shows normal young root system. D.D. shows root systems eaten off by maggots. (Reduced)

attack had destroyed the plant, even causing it to break and topple over at a point just above the level of the ground. Upon being repotted, none of the plants survived the injury.

From the second bundle of cuttings two typical Muscid or Anthomyid maggots were obtained which upon being placed in a cage, entered the soil immediately and by next day (March 5th) had pupated, two, and two and a half inches down, respectively. The cage was kept at usual laboratory temperature and was watered at intervals. The pupal period lasted practically one month and two female Anthomyid flies emerged on April 4th. Unfortunately these were the only two adults to be obtained as it was impossible for me to visit the scene of the infestation to collect more material.

The flies were sent to Mr. Gibson, Dominion Entomologist, who submitted them to Dr. Hockett of New York, an authority on Anthomyidae. Dr. Hockett considered them **Hylemyia brassicae** the common Cabbage Root Maggot and, in the absence of the male flies, this identification must stand. As Mr. Gibson says, this is a most unusual habit for this fly and constitutes a record. Unless further outbreaks occur, it must be considered as unique and of no menace to the growing of carnations in British Columbia.

The history of the outbreak is not known. The owner merely mentioned the fact that the carnations were of imported English stock. The infestation probably arose from flies emerging from pupae in soil which had been brought in from an old bed of cabbages infested by the root maggot. Normal host plants being absent, the flies must have laid their eggs around the carnation stems.

I am indebted to Mr. Olds of the Fumigation Station, for having visited the carnation grower in New Westminster for me and for bringing me the second lot of infested stems.

JANUARY, 1929—CORRECTION AND ADDENDA

At the International Congress of Entomology in August, 1928, at Ithaca, New York, I had the privilege of meeting Mr. F. W. Edwards, Dipterologist of the British Museum of Natural History, to whom I submitted this carnation maggot problem. He stated that the fly was unquestionably **Hylemyia brunescens** Zitterstedt which is a not uncommon pest of carnations in England.

This infestation therefore constitutes a record of a pest new to Canada and it was with this fear that Mr. Olds and I, at the time of discovery of the outbreak, impressed the grower with the possible seriousness of the situation, and he destroyed all his infested stock.

Up to the present (January, 1929) none of the main growers around Vancouver whom I have interrogated, have had similar trouble nor has a recurrence of the pest occurred in the original owner's garden.

CORRECTIONS

The following corrections apply to the paper "A List of Mosquitos of British Columbia," by E. Hearle appearing in No. 24 of these Proceedings.

On page 15, line 29, for **Aedes inequitus**, read **Aedes increpitus**.

On page 17, the following note regarding **Anopheles quadrimaculatus** should be added. The records of **Anopheles quadrimaculatus** Say given are from female specimens. They have the typical colouration of this species, and lack the bronzy patch at the apex of the wing that is characteristic of **Anopheles maculipennis**. It should be noted, however, that Freeborn (1923) states that in California this bronzy patch is very often indistinct. (Freeborn, S. B. Bull: Brooklyn Ent. Soc. Vol. XVIII., No. 5, p. 157, 1923).

