- Kenaga, E. E., and W. E. Allison. 1969. Commercial and experimental organic insecticides. Bull. Ent. Soc. America. 15: 85-148.
- Storherr, R. W., and R. R. Watts. 1965. A sweep co-distillation cleanup method for organophosphate pesticides. I Recoveries from fortified crops. J. Ass. Offic. Agr. Chem. 48: 1154-1158.
- Suett, D. L. 1971. Persistence and degradation of chlorfenvinphos, diazinon, fonofos and phorate in soils and their intake by carrots. Pestic. Sci. 2: 105-112.
- Watts, R. R., and R. W. Storherr. 1965. A sweep co-distillation cleanup method for organophosphate pesticides. $\overline{\underline{\Pi}}$ Rapid extraction method for crops. J. Ass. Offic. Agr. Chem. 48: 1158-1160.
- Wheatley, G. A. 1971. Pest control in vegetables: some further limitations in insecticides for cabbage root fly and carrot fly control. Proc. 6th Br. Insectic. Fungic. Conf. 386-395.
- Williams, I. H., R. Kore, and D. G. Finlayson. 1971. Determination of residues of Dasanit and three metabolites by gas chromatography with flame photometric detection. J. Agr. Food Chem. 19:456-458.

THE FUNGI *BEAUVERIA BASSIANA* AND *METARRHIZIUM ANISOPLIAE* IN CULTURES OF THE ROOT WEEVIL *NEMOCESTES INCOMPTUS* HORN (COLEOPTERA: CURCULIONIDAE)

W. T. CRAM

Research Station, Canada Department of Agriculture Vancouver, British Columbia

The woods weevil, Nemocestes incomptus Horn, is a native root weevil which causes serious damage to strawberries in coastal British Columbia. Freshly emerged adults were collected in large numbers from a strawberry planting in early September 1971, and confined in screen-covered quart sealers in the laboratory at room temperature. About 200 adults were kept in each sealer and fed fresh wet strawberry foliage daily. By early October most of the adults had died. White fungus was seen at their leg joints and mouthparts. When apparently healthy, freshly collected adults were confined singly with a dead, fungus-

covered adult they died within two to three days. The fungi on the dead weevils were identified as Beauveria bassiana (Fig. 1A) and Metarrhizium anisopliae (Fig. 1, A and B). These fungi are well known and have many insect hosts. The importance of these fungi in controlling root weevil adults or larvae in the field is not known but warrants further investigation.

Acknowledgement

Gerard M. Thomas, Division of Entomology, University of California, Berkeley, kindly identified the fungi.

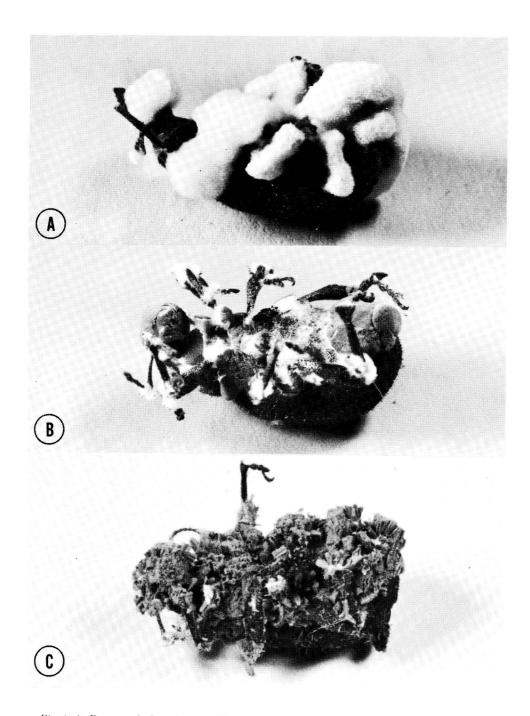


Fig. 1. A. Beauveria bassiana on Nemocestes incomptus adult.
B. Early stage of Metarrhizium anisopliae on N. incomptus adult.
C. Late stage of M. anisopliae on N. incomptus adult showing prismatic masses of spores.