

April 1981

Two *Entomophthora* Species Associated with Disease Epizootics of the Alfalfa Weevil, *Hypera Postica* (Coleoptera: Curculionidae), in Ontario

D. G. Harcourt
Agriculture Canada

J. C. Guppy
Agriculture Canada

D. M. MacLeod
Canadian Forestry Service

D. Tyrrell
Canadian Forestry Service

Follow this and additional works at: <https://scholar.valpo.edu/tgle>



Part of the [Entomology Commons](#)

Recommended Citation

Harcourt, D. G.; Guppy, J. C.; MacLeod, D. M.; and Tyrrell, D. 1981. "Two *Entomophthora* Species Associated with Disease Epizootics of the Alfalfa Weevil, *Hypera Postica* (Coleoptera: Curculionidae), in Ontario," *The Great Lakes Entomologist*, vol 14 (1)
DOI: <https://doi.org/10.22543/0090-0222.1374>
Available at: <https://scholar.valpo.edu/tgle/vol14/iss1/9>

This Peer-Review Article is brought to you for free and open access by the Department of Biology at ValpoScholar. It has been accepted for inclusion in The Great Lakes Entomologist by an authorized administrator of ValpoScholar. For more information, please contact a ValpoScholar staff member at scholar@valpo.edu.

TWO *ENTOMOPHTHORA* SPECIES ASSOCIATED WITH DISEASE EPIZOOTICS OF THE ALFALFA WEEVIL, *HYPERA POSTICA* (COLEOPTERA: CURCULIONIDAE), IN ONTARIO¹

D. G. Harcourt,² J. C. Guppy,² D. M. MacLeod,³ and D. Tyrrell³

ABSTRACT

Recent studies have shown that disease epizootics in Ontario populations of the alfalfa weevil, *Hypera postica* (Gyllenhal), are caused by a complex of two fungi.

Since 1975, natural populations of the alfalfa weevil, *Hypera postica* (Gyllenhal), have been reduced to near tolerable levels throughout Ontario by recurrent epizootics of a fungus disease which attacks and kills the larvae and cocooned stages (Harcourt et al. 1977). Management practices now recognize the disease as a key component in control of the pest.

Recent field and laboratory studies have revealed a disease complex of two fungi which have very similar asexual or conidial states. This similarity has led to taxonomic difficulties which are still not fully resolved. One species, which has long been recognized as a natural control agent in populations of the clover leaf weevil, *H. punctata* (Fabricius), throughout North America, has recently been renamed *Zoophthora phytonomi* (see Ben-Ze'ev and Kenneth 1980). Our discovery of smooth-walled resting spores associated with this pathogen in both weevils supports this change. The second species, which was first observed in Canada in 1973 and described by us under the name *Entomophthora phytonomi* Arthur (Harcourt et al. 1974), must therefore be renamed, but may be referable to *E. punctata* Garbowski if further studies confirm our 1974 proposal that its resting spore state is the rough-walled yellowish-brown spores found in the alfalfa weevil. While *Z. phytonomi* has been shown to infect both weevils, we have so far observed the second species in Ontario only on the alfalfa weevil.

LITERATURE CITED

- Ben-Ze'ev, I. and R. Kenneth. 1980. *Zoophthora phytonomi* and *Conidiobolus osmodes* (Zygomycetes: Entomophthoraceae). Two pathogens of *Hypera* species (Col.: Curculionidae) coincidental in time and place. *Entomophaga* 25:171-186.
- Harcourt, D. G., J. C. Guppy, D. M. MacLeod, and D. Tyrrell. 1974. The fungus *Entomophthora phytonomi* pathogenic to the alfalfa weevil, *Hypera postica*. *Canadian Entomol.* 106:1295-1300.
- Harcourt, D. G., and J. C. Guppy. 1977. The analysis of intrageneration change in eastern Ontario populations of the alfalfa weevil, *Hypera postica* (Coleoptera: Curculionidae). *Canadian Entomol.* 109:1521-1534.

¹Contribution from the Ottawa Research Station (No. 623) and of the Forest Pest Management Institute.

²Ottawa Research Station, Agriculture Canada, Ottawa, Ontario, Canada K1A 0C6.

³Forest Pest Management Institute, Canadian Forestry Service, Environment Canada, Sault Ste. Marie, Ontario, Canada.