

A REPORT ON THE EXAMINATION OF
INSECTS FOR PATHOGENS: 1987

File Report No. 89

G.G. Wilson

Forest Pest Management Institute
Canadian Forestry Service
P.O. Box 490
Sault Ste. Marie, Ontario
P6A 5M7

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*Director:
Forest Pest Management Institute
Canadian Forestry Service
P.O. Box 490
Sault Ste. Marie, Ontario
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During 1987 a total of 1396 insects from 28 different species were examined for pathogens. Fifty percent of the species examined had one or more pathogens, however of the total of 1396 insects only 7.6% were infected. As in previous years, microsporidia was the most often encountered pathogen (Table 1).

Samples were received from the following:

Great Lakes Forestry Centre Forest Insect and Disease Survey Sault Ste. Marie, Ont.	personnel of Great Lakes Forestry Centre Sault Ste. Marie, Ont.
Pacific Forestry Centre Forest Insect and Disease Survey Victoria, B.C.	personnel of the Forest Pest Management Institute Sault Ste. Marie, Ont.

Spruce budworm were collected from permanent plots at Uxbridge, Ranger Lake and Black Sturgeon Lake, Ont. again in 1987. No insects were found in the Ranger Lake plot and only three at Uxbridge. One of the three insects was infected with *Nosema fumiferanae*. This population has steadily declined since 1982. An early and late sample of spruce budworm were examined from the Black Sturgeon Lake plot. Of the 151 insects examined 55 or 36.4% were infected with *Nosema fumiferanae*. This has remained relatively constant since 1985. However the mean intensity (microsporidian spores/insect) continues to increase from 2.3×10^6 in 1986 to 9.8×10^6 in 1987.

Numerous samples of insects from the Insect Production unit are examined each year to ensure that rearing colonies are relatively free from disease.

Acknowledgement is extended to various staff members of FPMI and GLFC who provided assistance in the collection of insects and the identification of pathogens.

Table 1. Pathogens present in host species examined during 1987.

Insect species	Number examined	Pathogens present
<i>Acantholyda erythrocephala</i>	108	-
<i>Acleris variana</i>	11	-
<i>Archips cerasivoranus</i>	100	-
<i>Cephalcia</i> sp.	13	-
<i>Choristoneura conflictana</i>	6	microsporidia - <i>Pleistophora</i> sp. (3)
<i>Choristoneura fumiferana</i>	17	microsporidia - <i>Nosema</i> sp. (10)
<i>Choristoneura occidentalis</i>	404	bacteria (57)
		microsporidia - <i>Nosema</i> sp. (1)
<i>Choristoneura rosaceana</i>	5	-
<i>Datana ministra</i>	18	-
<i>Dioryctria reniculelloides</i>	1	microsporidia (1)
<i>Dryocampa rubicunda rubicunda</i>	60	-
<i>Enargia decolor</i>	5	-
<i>Erannis tiliaria</i>	2	-
<i>Feralia jocosa</i>	1	-
<i>Gilpinia hercyniae</i>	3	-
<i>Hyphantria cunea</i>	13	bacteria - <i>Bacillus</i> sp. (3)
		microsporidia - <i>Pleistophora</i> sp. (3)
<i>Lambdina fiscellaria</i>	10	-
<i>Lymantria dispar</i>	5	-
<i>Malacosoma americanum</i>	63	-
<i>Malacosoma disstria</i>	173	bacteria (7)
		fungi - <i>Entomophthora</i> sp. (4)
		microsporidia - <i>Nosema</i> sp. (1)
<i>Neodiprion pratti banksianae</i>	100	-
<i>Operophtera bruceata</i>	84	fungi - <i>Mucorales</i> sp. (4)
		microsporidia - <i>Thelohania</i> sp. (2)
<i>Orthosia hibisci</i>	4	-
<i>Phyllobius oblongus</i>	4	-
<i>Pisonema alaskensis</i>	7	-
<i>Pissodes strobi</i>	105	microsporidia - <i>Nosema</i> sp. (5)
<i>Pristiphora geniculata</i>	70	microsporidia - <i>Pleistophora</i> sp. (6)
<i>Zeiraphera canadensis</i>	4	-

() number in parentheses indicates number of hosts infected with the pathogen.