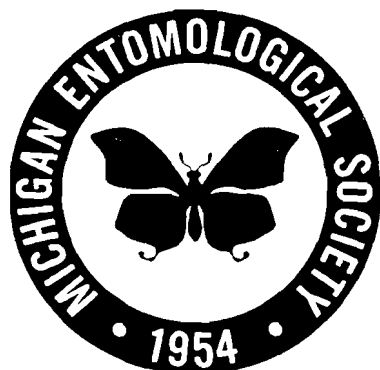


The  
**GREAT LAKES ENTOMOLOGIST**



**VOLUME XI (1978)**

D. C. L. Gosling  
Editor

*PUBLICATION DATES*

Number 1	12 Apr., 1978
Number 2	11 Jul., 1978
Number 3	23 Oct., 1978
Number 4	5 Dec., 1978

*Published by*

THE MICHIGAN ENTOMOLOGICAL SOCIETY  
c/o Department of Entomology  
Michigan State University  
East Lansing, Michigan 48823, U.S.A.

THE GREAT LAKES ENTOMOLOGIST  
VOLUME XI (1978)

AUTHOR INDEX

- Armbrust, Edward J. (See DeWitt, Jerald R. and Edward J. Armbrust), 67.
- Armbrust, E. J. (See Barney, R. J., S. J. Roberts, R. D. Pausch, and E. J. Armbrust), 255.
- Armbrust, E. J. (See Crain, L. J. and E. J. Armbrust), 63.
- Armbrust, E. J. (See Roberts, S. J., R. D. Pausch, E. J. Armbrust, and R. J. Barney), 249.
- Barney, R. J. (See Roberts, S. J., R. D. Pausch, E. J. Armbrust, and R. J. Barney), 249.
- Barney, R. J., S. J. Roberts, R. D. Pausch, and E. J. Armbrust. Fall Termination of Aestivation and Field Dispersal of the Alfalfa Weevil (Coleoptera: Curculionidae) in Illinois, 255.
- Barrows, Edward M. Male Behavior in *Evagetes subangulatus* (Hymenoptera: Pompilidae), 77.
- Barrows, Edward M., Patricia L. Lebau, and Cathlyn E. Eckstein. Behavior at a Nesting Site and Prey of *Crabro cribrellifer* (Hymenoptera: Sphecidae), 175.
- Bergman, Edward A. and William L. Hilsenhoff. *Baetis* (Ephemeroptera: Baetidae) of Wisconsin, 125.
- Bergman, Edward A. and William L. Hilsenhoff. Description of the Nymph of *Centroptilum walshi* (Ephemeroptera: Baetidae), With Biological Notes, 81.
- Bland, Roger G. (See Cassani, John R. and Roger G. Bland), 51.
- Brigham, Warren U. (See Hilsenhoff, William L. and Warren U. Brigham), 11.
- Cassani, John R. and Roger G. Bland. New Distribution Records for Mosquitoes in Michigan (Diptera: Culicidae), 51.
- Chandler, Leland (See MacLean, Bonnie K., Leland Chandler and David B. MacLean), 105.
- Crain, L. J. and E. J. Armbrust. The Effect of Repeated Low Temperature on Eggs of the Alfalfa Weevil (Coleoptera: Curculionidae), 63.
- DeWitt, Jerald R. and Edward J. Armbrust. Feeding Preference Studies of Adult *Nezara viridula* (Hemiptera: Pentatomidae) Morphs From India and the United States, 67.
- DeWitt, J. R. Collecting *Neocurtilla hexadactyla*, the Northern Mole Cricket (Orthoptera: Gryllidae), in Iowa, 261.

- Eckstein, Cathlyn E. (See Barrows, Edward M., Patricia L. Lebau, and Cathlyn E. Eckstein), 175.
- Erickson, Glen W. (See Mattson, William J., Jr. and Glen W. Erickson), 59.
- Foote, B. A. (See McElravy, Eric P. and B. A. Foote), 143.
- Foote, B. A. (See Tkac, Martin A. and B. A. Foote), 139.
- Gage, S. H. (See Webster, J. A., D. H. Smith, Jr., and S. H. Gage), 117.
- Gosling, D. C. L. Observations on the Biology of the Oak Twig Pruner, *Elaphidionoides parallelus*, (Coleoptera: Cerambycidae) in Michigan, 1.
- Graves, Robert C. (See Holeski, Paul M. and Robert C. Graves), 23.
- Hilsenhoff, William L. (See Bergman, Edward A. and William L. Hilsenhoff), 81.
- Hilsenhoff, William L. (See Bergman, Edward A. and William L. Hilsenhoff), 125.
- Hilsenhoff, William L. and Warren U. Brigham. Crawling Water Beetles of Wisconsin (Coleoptera: Haliplidae), 11.
- Holeski, Paul M. and Robert C. Graves. An analysis of the Shore Beetle Communities of Some Channelized Streams in Northwest Ohio (Coleoptera), 23.
- Huff, B. L., Jr. (See McCafferty, W. P. and B. L. Huff, Jr.), 209.
- Husband, Robert W. A New Species of Podapolipid Mite, and a Redescription of *Tetrapolipus blattae* (Oudemans) (Acarina: Podapolipidae), 93.
- Johnson, D. Kent (See Kraft, Kenneth J., D. Kent Johnson, and Richard H. Sypniewski), 85.
- Kovalak, William P. On the Feeding Habits of *Phasganophora capitata* (Plecoptera: Perlidae), 45.
- Kraft, Kenneth J., D. Kent Johnson, and Richard H. Sypniewski. Mating Flights of *Ephoron album* (Ephemeroptera: Polymitarcidae) in Michigan, 85.
- Lager, Thomas M. and Philip A. Lewis. Notes on Mayfly Nymphs from Northeastern Minnesota which Key to *Stenonema vicarium* (Ephemeroptera: Heptageniidae), 261.
- Lebau, Patricia L. (See Barrows, Edward M., Patricia L. Lebau, and Cathlyn E. Eckstein), 175.
- Leeuw, Irwin. Two Observations of Predation on Lepidoptera, 262.
- Lewis, Philip A. (See Lager, Thomas M. and Philip A. Lewis), 261.
- MacLean, Bonnie K., Leland Chandler and David B. MacLean. Phenotypic Expression in the Paper Wasp *Polistes fuscatus* (Hymenoptera: Vespidae), 105.
- MacLean, David B. (See MacLean, Bonnie K., Leland Chandler and David B. MacLean), 105.

- Mattson, William J., Jr. and Glen W. Erickson. Degree-day Summation and Hatching of the Forest Tent Caterpillar, *Malacosoma disstria* (Lepidoptera: Lasiocampidae), 59.
- McCafferty, W. P. A Natural Subgeneric Classification of *Ephemerella bartoni* and Related Species (Ephemeroptera: Ephemerellidae), 137.
- McCafferty, W. P. Pre-management Assessment of Aquatic Macroinvertebrates in a Small Sedimentary Drainage Area of the Maumee and Lake Erie Basin, 37.
- McCafferty, W. P. and B. L. Huff, Jr. The Life Cycle of the Mayfly *Stenacron interpunctatum* (Ephemeroptera: Heptageniidae), 209.
- McElravy, Eric P. and B. A. Foote. Annotated List of Caddisflies (Trichoptera) Occurring Along the Upper Portion of the West Branch of the Mahoning River in Northeastern Ohio, 143.
- McKeague, M. and G. Simmons. Incidence and Location of Eastern Pineshoot Borer Damage in Some Scotch Pine Christmas Tree Plantations in Michigan (Lepidoptera: Olethruetidae), 121.
- McPherson, J. E. A List of the Scutelleroidea (Hemiptera) of Southern Illinois, 159.
- McPherson, J. E. Effects of Various Photoperiods on Color and Pubescence in *Thyanta claceata* (Hemiptera: Pentatomidae), 155.
- McPherson, J. E. Sensitivity of Immature *Thyanta calceata* (Hemiptera: Pentatomidae) to Photoperiod as Reflected by Adult Color and Pubescence, 71.
- Meier, Peter G. and Henry C. Torres. A Modified Method for Rearing Midges (Diptera: Chironomidae), 89.
- Merritt, Richard W., Douglas H. Ross, and B. V. Peterson. Larval Ecology of some Lower Michigan Black Flies (Diptera: Simuliidae) with Keys to the Immature Stages, 177.
- Morse, Joseph G. and Gary A. Simmons. Alternatives to the Gypsy Moth Eradication Program in Michigan, 243.
- Pausch, R. D. (See Barney, R. J., S. J. Roberts, R. D. Pausch, and E. J. Armbrust), 255.
- Pausch, R. D. (See Roberts, S. J., R. D. Pausch, E. J. Armbrust, and R. J. Barney), 249.
- Peterson, B. V. (See Merritt, Richard W., Douglas H. Ross, and B. V. Peterson), 177.
- Roberts, S. J., R. D. Pausch, E. J. Armbrust, and R. J. Barney. Two Trapping Systems to Determine Incidence and Duration of Migration of Adult Alfalfa Weevils, *Hypera postica* (Coleoptera: Curculionidae), 249.
- Roberts, S. J. (See Barney, R. J., S. J. Roberts, R. D. Pausch, and E. J. Armbrust), 255.
- Ross, Douglas H. (See Merritt, Richard W., Douglas H. Ross, and B. V. Peterson), 177.

- Simmons, G. (See McKeague, M. and G. Simmons), 121.
- Simmons, Gary A. (See Morse, Joseph G. and Gary A. Simmons), 243.
- Smith, D. H., Jr. (See Webster, J. A., D. H. Smith, Jr. and S. H. Gage), 117.
- Snider, Richard J. New Species of Sminthuridae from North America (Collembola: Symphleona), 217.
- Sypniewski, Richard H. ( See Kraft, Kenneth J., D. Kent Johnson, and Richard H. Sypniewski), 85.
- Thomson, James D. A Local Replacement of *Bombus ternarius* by *Bombus Terricola* in Northern Wisconsin (Hyemoptera: Apidae), 101.
- Tkac, Martin A. and B. A. Foote. Annotated List of Stoneflies (Plecoptera) from Stebbins Gulch in North-eastern Ohio, 139.
- Torres, Henry C. (See Meier, Peter G. and Henry C. Torres), 89.
- Wagner, Warren Herb, Jr. The Northern Great Lakes White, *Pieris virginiensis*, (Lepidoptera: Pieridae) in Comparison with its Southern Appalachian Counterpart, 53.
- Webster, J. A., D. H. Smith, Jr., and S. H. Gage. Cereal Leaf Beetle (Coleoptera: Chrysomelidae): Influence of Seeding Rate of Oats on Populations, 117.
- Woolridge, David P. New World Limnichinae IV. *Eulimnichus* Casey. A Synonymies, Lectotype Designations, and Redescriptions (Coleoptera: Limnichidae), 163.

## SUBJECT INDEX

- Abacidus permundus*, 32.  
*Acantholomidea denticulata*, 160.  
 Acarina, 93-100.  
*Acentralla propinqua*, 132.  
*Acroneuria californica*, 46.  
*Acroneuria carolinensis*, 139.  
*Acroneuria* sp., 191.  
*Acrosternum hilare*, 160.  
*Acupalpus* sp., 32.  
*Acylophorus flavicollis*, 32, 35.  
*Acylophorus* sp., 32.  
*Aedes*, 51.  
*Aedes abserratus*, 52.  
*Aedes aurifer*, 52.  
*Aedes canadensis*, 52.  
*Aedes cinereus*, 52.  
*Aedes dorsalis*, 52.  
*Aedes excrucians*, 52.  
*Aedes fitchii*, 52.  
*Aedes punctor*, 52.  
*Aedes sticticus*, 52.  
*Aedes stimulans*, 52.  
*Aedes trichurus*, 52.  
*Aedes triseriatus*, 52.  
*Aedes trivittatus*, 52.  
*Aedes vexans*, 52.  
*Aelia americana*, 160.  
 Aeshnidae, 39, 191.  
*Agabus* sp., 40, 192.  
*Agonocryptus discoidaloides*, 8.  
*Agonum extensicole*, 32.  
*Agonum ferreum*, 32.  
*Agraylea multipunctata*, 146, 149.  
*Agrotis ducens*, 262.  
*Aleocharinae* spp., 32.  
 Alfalfa weevil, 63-66, 249-253, 255-259.  
*Allocapnia frisoni*, 140.  
*Allocapnia granulata*, 140.  
*Allocapnia illinoensis*, 140.  
*Allocapnia lycorias*, 142.  
*Allocapnia nivicola*, 140.  
*Allocapnia recta*, 140.  
*Allocapnia rickeri*, 140.  
*Alloperla caudata*, 142.  
*Alloperla chloris*, 142.  
*Alloperla imbecilla*, 142.  
*Amaurochrous cinctipes*, 160.  
 Ambush bug, 262.  
 Amnestinae, 160.  
*Amnestus pallidus*, 160.  
*Amnestus pusillus*, 160.  
*Amnestus spinifrons*, 160.  
*Amphinemura delosa*, 140.  
*Amphinemura nigritta*, 140.  
 Amphipoda, 41.  
*Ancyronyx variegatus*, 40.  
 Anisoptera, 191.  
*Anopheles*, 51.  
*Anopheles earlei*, 52.  
*Anopheles punctipennis*, 52.  
*Anopheles quadrimaculata*  
     41.  
*Anopheles quadrimaculatus*,  
     52.  
*Anopheles walkeri*, 52.  
 Ants, 9.  
*Apateticus cynicus*, 161.  
 Apidae, 101-103.  
*Argia apicalis*, 40.  
*Argia fumipennis*, 40.  
*Argia moesta*, 40.  
*Argia sedula*, 40.  
 Asilidae, 175, 176.  
 Asopinae, 161.  
*Ataenius* sp., 32.  
 Athericidae, 193.  
*Atherix variegata*, 193.  
 Baetidae, 39, 81-84,  
     125-135, 191.  
*Baetis baeticatus*, 129.  
*Baetis brunneicolor*,  
     126-130.  
*Baetis cingulatus*, 132.  
*Baetis dardanus*, 132.  
*Baetis frondalis*, 125-130,  
     133.  
*Baetis hageni*, 125-130.  
*Baetis herodes*, 129.  
*Baetis incertans*, 133.  
*Baetis intercalaris*, 39,  
     46, 126-130.  
*Baetis lasallei*, 129.  
*Baetis levitans*, 46,  
     125-128, 130, 132.  
*Baetis macdunnoughi*,  
     127.  
*Baetis pallidulus*, 132.

- Baetis phoebus*, 126-128, 130, 132.  
*Baetis propinquus*, 125, 126, 128, 131-133.  
*Baetis pygmaeus*, 125-128, 131-133.  
*Baetis quebecensis*, 132.  
*Baetis* sp., 39, 46-48, 127, 131, 134, 191.  
*Baetis spinosus*, 125-129, 131, 133.  
*Baetis unicolor*, 129.  
*Baetis vagans*, 125-129, 131, 133, 134, 215.  
*Bakerpolipus*, 100.  
*Banasa calva*, 160.  
*Banasa dimidiata*, 160.  
*Banasa euchlora*, 160.  
*Banasa sordida*, 160.  
*Banksiola crotchi*, 146, 151.  
*Banksiola dossuaria*, 146, 151.  
*Belostoma* sp., 192.  
 Belostomatidae, 192.  
*Bembicinus*, 114.  
 Bembidiini, 23.  
*Bembidion frontale*, 32.  
*Bembidion graciliforme*, 32, 35.  
*Bembidion impotens*, 32, 34.  
*Bembidion inaequale*, 32, 34, 35.  
*Bembidion mimus*, 32.  
*Bembidion patrule*, 32, 34.  
*Bembidion rapidum*, 32.  
*Bembidion* sp., 32, 34.  
*Bembidion texanum*, 32.  
*Bembidion variegatum*, 32, 34, 35.  
*Bembidion versicolor*, 32, 34.  
*Berosus peregrinus*, 40.  
*Berosus* sp., 32, 40.  
*Bidessus* sp., 32.  
 Blaberidae, 100.  
 Blattidae, 93, 96, 97, 99, 100.  
*Bombus*, 114.  
*Bombus ternarius*, 101-103.  
*Bombus terricola*, 101, 103.  
*Boophthora erythrocephala*, 189.  
*Bourletiella* (*Bourletiella*)  
     *christianseni*, 222-224.  
*Bourletiella* (*Deuterosminthurus*)  
     *lipponi*, 224-226.  
*Bourletiella* (*Deuterosminthurus*)  
     *lurida*, 226, 227.  
*Bourletiella* (*Deuterosminthurus*)  
     *nonfasciata*, 230-233.  
*Bourletiella* (*Deuterosminthurus*)  
     *russata*, 226.  
*Bourletiella* (*Deuterosminthurus*)  
     *validentata*, 228, 229.
- Bourletiella* (*Deuterosminthurus*)  
     *wexfordensis*, 230.  
*Bourletiella* (*Deuterosminthurus*)  
     *xeromorphus*, 228-231.  
*Bourletiella* (*Prorastropes*)  
     *coalingaensis*, 228, 233, 234.  
*Boyeria* sp., 191.  
*Boyeria vinosa*, 39.  
*Brachyvatus* sp., 32.  
*Bracon eurygaster*, 8.  
 Braconidae, 8.  
*Bradycellus* sp., 32.  
*Brochymena arborea*, 161.  
*Brochymena cariosa*, 161.  
*Brochymena punctata punctata*, 161.  
*Brochymena quadripustulata*, 161.  
*Brychius hungerfordi*, 11, 15, 16.  
*Brychius* sp., 12.  
 Bumblebee, 101-103.
- Caddisflies, 45-48, 143-154.  
 Caenidae, 39, 191.  
*Caenis simulans*, 39.  
*Caenis* sp., 39, 191.  
 Calopterygidae, 39, 191.  
*Calopteryx maculatum*, 39.  
*Calopteryx* spp., 191.  
*Callibaetis fluctuans*, 39.  
*Camponotus nearcticus*, 9.  
*Camponotus subarbaratus*, 9.  
 Capniidae, 140, 142.  
 Carabidae, 23, 32, 33.  
*Carpelimus* sp., 32, 34, 35.  
*Centroptilum walshi*, 81-84.  
*Centuriatus auromicans*, 33.  
*Ceraclaea*, 147, 151, 152.  
*Ceraclaea alagma*, 147, 152.  
*Ceraclaea diluta*, 147, 152.  
*Ceraclaea resurgens*, 147, 152.  
*Ceraclaea tarsipunctata*, 147, 152.  
*Ceraclaea transversa*, 147, 152.  
 Cerambycidae, 1-10, 100.  
 Ceratopogonidae, 41.  
*Cercyon* sp., 32.  
 Cereal Leaf beetle, 117-120.

- Cheumatopsyche aphantata*, 146, 150.  
*Cheumatopsyche halima*, 146, 151.  
*Cheumatopsyche oxa*, 146, 151.  
*Cheumatopsyche pettiti*, 40, 146, 151.  
*Cheumatopsyche* sp., 192.  
*Cheumatopsyche* sp. (nr. *harwoodi* *harwoodi*) 146, 151.  
*Chimarra aterrima*, 46-48, 146, 149.  
*Chimarra obscura*, 146, 149.  
Chironomidae, 41, 46-48, 89-91, 193.  
Chironomini, 189, 193.  
*Chironomus fulvipilus*, 89.  
*Chironomus monochromus*, 89.  
*Chironomus plumosus*, 89.  
*Chironomus tentans*, 89.  
*Chlaenius sericeus*, 32.  
*Chlorochroa persimilis*, 161.  
Chloroperlidae, 142.  
Chrysomelidae, 117-120.  
*Chrysops* sp., 41, 193.  
*Cicindela duodecimguttata*, 32.  
*Cicindela repanda*, 32.  
Cicindelidae, 32.  
*Clivina bipustulata*, 32.  
*Clivina impressifrons*, 32.  
*Cloeon alamanca*, 39.  
*Cloe propinqua*, 132.  
*Cloe pygmaea*, 133.  
Clover leaf weevil, 251.  
Clover root curculio, 251, 253.  
*Cnephia dacotensis*, 178, 182, 184-188, 195, 197, 199, 202.  
*Cnephia ornithophilia*, 177, 178, 181-186, 188, 195, 197.  
*Coccipolipus*, 100.  
Cockroach, 93, 96, 97, 99, 100.  
Coenagrionidae, 40, 191.  
*Coenus delius*, 161.  
Coleoptera, 1-36, 40, 100, 117-120, 163-173, 192, 249-253, 255-259.  
Collembola, 217-241.  
*Copelatus* sp., 32.  
Corduliidae, 191.  
*Corimelaena agrella*, 160.  
*Corimelaena harti*, 160.  
*Corimelaena lateralis lateralis*, 160.  
*Corimelaena obscura*, 160.  
*Corimelaena pulicaria*, 160.  
Corixidae, 40, 191.  
Corydalidae, 192.  
*Cosmopepla bimaculata*, 161.  
*Crabro cribrellifer*, 175, 176.  
*Crenitis* sp., 32.  
*Culex erraticus*, 51, 52.  
*Culex pipiens*, 52.  
*Culex restuans*, 52.  
*Culex territans*, 52.  
Culicidae, 41, 51, 52.  
*Culiseta impatiens*, 51, 52.  
*Culiseta inornata*, 52.  
*Culiseta morsitans*, 52.  
Curculionidae, 63-66, 100, 249-253, 255-259.  
Cydniidae, 160.  
Cydniinae, 160.  
*Cyrmellus fraternus*, 146, 150.  
*Cyrtomenus ciliatus*, 160.  
*Dampfius collaris*, 33.  
*Dampfius undatus*, 33, 34.  
Danaidae, 262.  
*Danaus p. plexippus*, 262.  
*Dannella*, 137, 138.  
Decapoda, 41.  
*Deinopsis* sp., 32.  
*Dendrocoris humeralis*, 161.  
*Deronectes griseostriatus*, 40.  
*Dineutus* sp., 192.  
*Diplectrona modesta*, 146, 151.  
Diptera, 8, 41, 45-48, 51, 52, 89-91, 175, 176, 177-208.  
Douglas-fir tussock moth, 61.  
*Dromogomphus spinosus*, 39.  
Dryopidae, 40.  
*Dubiraphia bivittata*, 40.  
*Dubiraphia* sp., 32.  
*Dyschirius haemorrhoidalis*, 32.  
*Dyschirius sphaericollis*, 32.  
Dytiscidae, 32, 40, 192.  
*Dytiscus* sp., 192.  
Eastern pineshoot borer, 121-124.  
*Elaphidion*, 1.  
*Elaphidionoides parallelus*, 1-10.  
*Elaphidionoides villosus*, 1-3, 6-9.  
*Elaphrus ruscarius*, 32.  
Elmidae, 32, 40.



- Empididae, 41, 193.  
*Enallagma* sp., 40, 191.  
*Enochrus nebulosus*, 40.  
*Enochrus perplexus*, 32, 40.  
*Enochrus pygmaeus*, 32.  
*Epeorus*, 212.  
*Ephemera* sp., 191.  
*Ephemerella bartoni*, 137, 138.  
*Ephemerella subvaria*, 47.  
 Ephemerellidae, 137, 138.  
 Ephemeridae, 39, 189, 191.  
 Ephemeroptera, 39, 42, 45-48,  
     81-88, 125-135, 137,  
     138, 189, 191, 209-  
     216, 261.  
*Ephoron album*, 39, 85-88.  
 Ephydriidae, 41.  
*Episyron quinquetatus*, 77.  
*Erichsonius nanus*, 32.  
*Eucosma gloriola*, 121-124.  
*Eucosma sonomana*, 123.  
*Eulimnichus analis*, 165, 168.  
*Eulimnichus analis coloradensis*,  
     168.  
*Eulimnichus analis rugiceps*,  
     168.  
*Eulimnichus ater*, 165-167.  
*Eulimnichus californicus*,  
     165, 167-169.  
*Eulimnichus elongatus*, 163,  
     172.  
*Eulimnichus ephistemus*, 170.  
*Eulimnichus evanescens*, 165, 172.  
*Eulimnichus guatemalicus*, 166.  
*Eulimnichus impostus*, 163,  
     172, 173.  
*Eulimnichus laeticulus*, 167.  
*Eulimnichus montanus*, 165,  
     167, 168.  
*Eulimnichus nitidulus*, 165, 166.  
*Eulimnichus obscurus*, 164.  
*Eulimnichus optatus*, 165, 171.  
*Eulimnichus perpolitus*, 165,  
     171, 172.  
*Eulimnichus plebius*, 165, 170,  
     171.  
*Eulimnichus sculpticeps*, 166.  
*Eulimnichus sordidus*, 169.  
*Eulimnichus sublaevis*, 169,  
     170.  
 Eumeninae, 9.  
*Euparyphus* sp., 41.  
 European mantid, 262.  
*Eurylophella*, 137.  
*Euschistus ictericus*, 161.  
*Euschistus politus*, 161.  
*Euschistus servus*, 161.  
*Euschistus tristigmus tristig-*  
     *mus*, 161.  
*Euschistus variolarius*, 161.  
*Eusimulium*, 183, 195.  
*Evagetes subangulatus*, 77-80.  
 Forest tent caterpillar, 59-  
     61.  
*Galgupha aterrima*, 160.  
*Galgupha atra*, 160.  
*Galgupha carinata*, 160.  
*Galgupha denudata*, 160.  
*Galgupha loboprostethia*, 160.  
*Galgupha nitiduloides*  
     *nitiduloides*, 160.  
*Galgupha ovalis*, 160.  
 Gerridae, 40, 192.  
*Gerris remigis*, 40.  
*Gerris* sp., 192.  
*Glossosoma nigrrior*, 46-48,  
     146, 149.  
 Glossosomatidae, 46-48,  
     146, 149.  
*Glyptotendipes barbipes*,  
     89-91.  
 Gomphidae, 39, 191.  
*Gomphus*, 191.  
 Graphosomatinae, 160.  
 Gryllidae, 261, 262.  
 Gypsy Moth, 243-248.  
 Gyridae, 192.  
 Haliplidae, 11-22, 32, 40,  
     192.  
*Haliplus apostolicus*, 13,  
     15, 17, 18, 20, 21.  
*Haliplus blanchardi*, 13, 15,  
     17, 18, 20, 21.  
*Haliplus borealis*, 13,  
     15-18, 20.  
*Haliplus canadensis*, 13-15,  
     17, 19-21.  
*Haliplus connexus*, 13, 14,  
     16, 19, 20, 22.  
*Haliplus cribrarius*, 13, 15,  
     17, 19-21.

- Haliplus fasciatus*, 13, 16, 18, 20.  
*Haliplus immaculicollis*, 13, 15, 17, 19-21.  
*Haliplus leopardus*, 13, 16, 18, 20-22.  
*Haliplus lewisii*, 11.  
*Haliplus longulus*, 13-15, 19-21.  
*Haliplus nitens*, 13-15, 17, 19-21.  
*Haliplus ohioensis*, 11, 16.  
*Haliplus pantherinus*, 13, 14, 16, 19, 21, 22.  
*Haliplus subguttatus*, 13, 16, 19-21.  
*Haliplus tortilipenis*, 13, 14, 16, 19-22.  
*Haliplus triopsis*, 11-13, 16, 19, 21, 22.  
*Haliplus variomaculatus*, 16.  
*Hastaperla brevis*, 142.  
*Helichus fastigiatus*, 40.  
*Helicopsychidae borealis*, 147, 153.  
*Helochaeres* sp., 32.  
 Helodidae, 192.  
*Helophorus* sp., 32, 40.  
*Hemerodromia* sp., 193.  
 Hemiptera, 40, 67-69, 155-162, 189, 191.  
*Heptagenia diabasia*, 39.  
*Heptagenia maculipennis*, 39.  
 Heptageniidae, 39, 191, 209-216, 261.  
*Hetaerina americana*, 39.  
 Heteroceridae, 23, 33.  
*Heterosminthurus cornutus*, 233.  
*Hexagenia bilineata*, 212.  
*Hexagenia limbata*, 39.  
*Hexagenia* sp., 191.  
*Holcostethus limbolarius*, 161.  
*Homaemus parvulus*, 160.  
*Homeotarsus bicolor*, 32, 34.  
 Homoptera, 77.  
*Hyalella azteca*, 41.  
*Hydatophylax argus*, 147, 153.  
 Hydrophilidae, 32, 40, 192.  
*Hydroporus wickhami*, 40.  
*Hydropsyche betteni*, 146, 150, 192.  
*Hydropsyche bronta*, 146, 150.  
*Hydropsyche cheilonis*, 146, 150.  
*Hydropsyche orris*, 40.  
*Hydropsyche simulans*, 40.  
*Hydropsyche slossonae*, 146, 150.  
*Hydropsyche sparna*, 146, 150.  
*Hydropsyche* sp., 40, 192.  
*Hydropsyche* sp. (nr. *dicantha*), 146, 150.  
*Hydropsyche* sp. (nr. *walkeri*), 146, 150.  
 Hydropsychidae, 40, 46-48, 146, 150, 151, 189, 192.  
*Hydroptila armata*, 146, 149.  
*Hydroptila consimilis*, 146, 149.  
*Hydroptila hamata*, 146, 149.  
*Hydroptila jackmanni*, 146, 149.  
*Hydroptila perdita*, 146, 149.  
*Hydroptila* sp. (nr. *grandiosa*), 146, 149.  
*Hydroptila strepha*, 146, 149.  
*Hydroptila vala*, 146, 149.  
*Hydroptila waubesianae*, 146, 149.  
 Hydroptilidae, 146, 149, 150.  
*Hydrovatus* sp., 32.  
*Hygrotus sayi*, 40.  
*Hygrotus* sp., 32.  
*Hymenarcys aequalis*, 161.  
*Hymenarcys nervosa*, 161.  
 Hymenoptera, 8, 9, 77-80, 101-103, 105-116, 175, 176.  
*Hypera postica*, 63-66, 245-253, 255-259.  
*Hypera punctata*, 251.  
*Hypermallus*, 1.  
 Ichneumonidae, 8.  
*Iphiaulax eurygaster*, 8.  
*Ironoquia lynxata*, 147, 152.  
*Ironoquia parvula*, 147, 152.  
*Ironoquia punctatissima*, 147, 152.  
*Ischnura posita*, 40.  
*Ischnura verticalis*, 40.  
*Isoperla clio*, 139.  
*Isoperla namata*, 139.  
*Isoperla* sp., 191.

Isopoda, 41.

Kermesinae, 77.

*Laccobius* sp., 32, 40.  
*Laccophilus fasciatus*, 40.  
*Laccophilus maculosus*, 32.  
*Laccophilus* sp., 40.  
*Lanternarius mollinus*, 33, 34.  
*Lapsus tristis*, 33, 34, 35.  
Lasiocampidae, 59-61.  
Lepidoptera, 53-57, 59-61,  
121-124, 243-248, 262.  
*Leptophlebia* sp., 191.  
Leptophlebiidae, 191.  
Leptoceridae, 146, 151, 152.  
*Leptocerus americanus*, 147, 152.  
*Leptophlebia cupida*, 212.  
*Leptothorax curvispinosus*, 9.  
*Lethocerus* sp., 192.  
*Leuctra ferruginea*, 142.  
*Leuctra sibleyi*, 142.  
*Leuctra tenuis*, 142.  
Leuctridae, 142.  
*Libellula* sp., 39, 191.  
Libellulidae, 39, 191.  
Limnephilidae, 41, 147, 152,  
153, 192.  
*Limnephilus consocius*, 147,  
152, 192.  
*Limnephilus indivisus*, 147, 152.  
*Limnephilus* sp., 41, 192.  
*Limnephilus submonilifer*, 147,  
152, 192.  
Limnichidae, 163-173.  
Limnichinae, 163-173.  
*Limnichoderus*, 163.  
*Limnichoderus breyeri*, 170.  
*Limnichoderus convexus*, 170.  
*Limnichoderus elongatus*, 172.  
*Limnichoderus oblongus* 166, 167.  
*Limnichoderus permuvianus*, 170.  
*Limnichus analis*, 168.  
*Limnichus ater*, 166, 167.  
*Limnichus californicus*, 168.  
*Limnichus montanus*, 167.  
*Limnichus nitidulus*, 166.  
*Limnichus obscurus*, 163, 164.  
*Limnichus perpolitus*, 171.  
*Limonia* sp., 193.  
*Lirceus* sp., 41.

*Lobrathium grande*, 32.  
*Lobrathium* sp., 32.  
*Lype diversa*, 146, 150.

*Malacosoma disstria*, 59-61.  
*Mansonia perturbans*, 52.  
*Mantis religiosa*, 262.  
Mayflies, 45-48, 81-88.  
Megaloptera, 40, 192.  
*Melanaethus pensylvanicus*,  
160.  
*Melanaethus robustus*, 160.  
*Meneles insertus*, 161.  
Mesoveliidae, 192.  
*Meteorus tibialis*, 8.  
*Metopia campestris*, 175,  
176.  
*Micropsectra nigripilus*, 89.  
*Microvelia* sp., 192.  
*Mineus strigipes*, 161.  
*Minthozelia ruficauda*, 8.  
*Molanna blenda*, 147, 151.  
*Molanna* sp., 193.  
Molannidae, 147, 151, 193.  
Monarch butterfly, 262.  
*Mormidea lugens*, 161.  
Mosquitoes, 51, 52.  
Moth, 9.  
*Murgantia histrionica*, 161.  
*Nectopsyche albida*, 147,  
152.  
Nemouridae, 140.  
*Neobisnius agnatus*, 32, 34.  
*Neobisnius paederoides*,  
32, 35.  
*Neocurtilla hexadactyla*,  
261, 262.  
*Neoheterocerus longilobulus*,  
33, 34.  
*Neoheterocerus pallidus*, 33.  
*Neoheterocerus sandersoni*,  
33.  
*Neoitamus flavofemoratus*,  
175.  
*Neophylax concinnus*, 147,  
152.  
*Neophylax oligius*, 147,  
152.  
*Neophylax* sp., 193.

- Neosminthurus bakeri*, 235-238.  
*Neosminthurus clavatus*, 238, 240.  
*Neosminthurus richardsi*, 237-240.  
*Neotrichia okopa*, 146, 149.  
*Neottiglossa cavifrons*, 161.  
*Neottiglossa sulcifrons*, 161.  
*Nepa* sp., 192.  
Nepidae, 192.  
*Nezara viridula*, 67-69, 161.  
*Nigronia* sp., 192.  
Noctuidae, 262.  
Northern Great Lakes White,  
53-57.  
Northern mole cricket, 261, 262.  
*Notonecta* sp., 192.  
Notonectidae, 192.  
*Nyctiophylax moestus*, 146, 150.
- Ochrotrichia arva*, 146, 149.  
*Ochrotrichia* sp. (nr. *confusa*),  
146, 149.  
*Ochrotrichia spinosa*, 146, 150.  
*Ochrotrichia wojcickyi*, 146,  
150.  
Odonata, 39, 189, 191.  
*Odontobracon elaphidivorus*, 8.  
Odontoceridae, 147, 151.  
*Oebalus pugnax*, 161.  
*Oecetis cinerascens*, 147, 152.  
*Oecetis inconspicua*, 147, 152.  
Olethreutidae, 121-124.  
*Olophrum* sp., 32.  
*Ommatius tibialis*, 175.  
*Omphron americanum*, 32.  
*Orconectes rusticus mirus*, 41.  
*Orconectes* sp., 41.  
*Orgyia pseudotsugata*, 61.  
*Orthopodomyia*, 51, 52.  
Orthoptera, 93, 96, 97, 99, 100,  
261, 262.  
*Orthotrichia aegerfasciella*, 146,  
149.  
*Oscinosoma pusilla*, 117.  
*Ostrocerca truncata*, 140.  
*Oulema melanopus*, 117-120.  
*Oxyethira pallida*, 146, 149.  
*Oxytelus insignitus*, 32.
- Pangaeus bilineatus*, 160.  
Paper wasp, 105-116.  
*Paracapnia angulata*, 142.  
*Paracymus* sp., 32.  
*Paracymus subcupreus*, 40.  
*Paragnetina media*, 48.  
*Parahelodon*, 182, 194.  
*Paraleptophlebia mollis*,  
46-48.  
*Paraleuctra sara*, 142.  
*Patrobus longicornis*, 32.  
*Pediculoides*, 93.  
*Peltodytes dunavani*, 16.  
*Peltodytes duodecimpunc-*  
*tatus*, 13-15,  
17, 18, 32, 40.  
*Peltodytes edentulus*, 13,  
15, 17, 18.  
*Peltodytes endentulus*, 32.  
*Peltodytes lengi*, 11, 13,  
15, 17.  
*Peltodytes litoralis*, 16.  
*Peltodytes pedunculatus*, 16.  
*Peltodytes sexmaculatus*,  
12, 13, 15-18.  
*Peltodytes* sp., 192.  
*Peltodytes tortulosus*,  
13, 15-18.  
*Pentaneura pilosella*, 89.  
Pentatomidae, 67-69,  
155-158, 160, 161.  
Pentatominae, 160, 161.  
*Perillus bioculatus*, 161.  
*Periplaneta australasiae*,  
93, 97, 100.  
*Perlesta placida*, 40, 142.  
*Perlesta* sp., 191.  
Perlidae, 40, 45-49,  
139, 191.  
Perlodidae, 139, 191.  
*Phasganophora capitata*,  
45-49, 139.  
*Philonthus flavolimbatus*,  
32, 34.  
*Philonthus* sp., 32.  
Philopotamidae, 46-48,  
146, 149.  
*Phosterodoros*, 196.  
*Phryganea sayi*, 146, 151.  
Phryganeidae, 41, 146,  
151, 193.  
*Phymata erosa*, 262.  
Pieridae, 53-57.
- Pachycorinae, 160.  
*Palpomyia* sp., 41.  
*Panesthia angustipennis*, 93, 96, 99.

- Pieris napi*, 53, 56.  
*Pieris virginiensis*, 53-57.  
*Platycentropus radiatus*, 147, 153.  
*Platystethus cornutus*, 32.  
Plecoptera, 40, 42, 45-49, 139-142, 189, 191.  
*Plea* sp., 192.  
Pleidae, 192.  
Podapolipidae, 93-100.  
*Podapolipoides*, 100.  
*Podisus maculiventris*, 161.  
*Podisus modestus*, 161.  
*Podisus placidus*, 161.  
*Polistes aurifer*, 105, 114, 115, 114.  
*Polistes aurifer anaheimensis*, 114.  
*Polistes aurifer centralis*, 114.  
*Polistes aurifer montanus*, 114.  
*Polistes aurifer utahensis*, 114.  
*Polistes fuscatus*, 77, 105-116.  
*Polistes fuscatus aurifer*, 105.  
*Polistes fuscatus centralis*, 106.  
*Polistes fuscatus exilis*, 114.  
*Polistes fuscatus fuscatus*, 106.  
*Polistes fuscatus laurentianus*, 106, 114.  
*Polistes fuscatus pallipes*, 106, 113, 114.  
*Polistes fuscatus utahensis*, 106, 114.  
*Polistes fuscatus variatus*, 106, 114.  
*Polistes metricus*, 113.  
Polycentropodidae, 146, 150.  
*Polycentropus cinereus*, 146, 150.  
*Polycentropus confusus*, 146, 150.  
*Polycentropus crassicornis*, 146, 150.  
*Polycentropus pentus*, 146, 150.  
*Polycentropus remotus*, 146, 150.  
*Polycentropus* sp. (nr. *nascotius*), 146, 150.  
Polymitarciidae, 39.  
Pompilidae, 77-80.  
*Porthetria dispar*, 243-248.  
Potamanthidae, 39.  
*Potamanthus myops*, 39.  
Potter wasp, 9.  
*Prionosoma podopiooides*, 161.  
*Prosimulium*, 177, 204.  
*Prosimulium fuscum*, 178, 181, 182, 184, 186-188, 194, 197, 198, 202, 205.  
*Prosimulium gibsoni*, 178, 182, 184-186, 194, 196, 199, 202, 203, 205.  
*Prosimulium mixtum*, 178, 181-188, 194, 197, 198, 202, 205.  
*Prosimulium multidentatum*, 178, 182, 184, 194, 197, 198, 202, 205.  
*Prosimulium mysticum*, 178, 182, 184, 194, 197, 198, 202, 205.  
*Prostoia similis*, 140.  
*Proxys punctulatus*, 161.  
*Psectrotanypus* sp., 89.  
*Psephidonus brunneus*, 32, 34.  
*Pseudocloeon* sp., 39.  
*Pseudostenophylax* sp., 193.  
*Psilotreta indecisa*, 147, 151.  
*Psilozia*, 185, 196.  
*Psithyrus*, 101.  
*Psorophora ciliata*, 52.  
Psychomyiidae, 146, 150.  
*Ptilostomis ocellifera*, 41, 146, 151.  
*Ptilostomis postica*, 146, 151.  
*Ptilostomis semifasciata*, 146, 151.  
*Ptilostomis* spp., 193.  
*Pycnopsyche divergens*, 147, 153.  
*Pycnopsyche guttifer*, 147, 153.  
*Pycnopsyche lepida*, 147, 153.  
*Pycnopsyche luculenta*, 147, 153.  
*Pycnopsyche scabripennis*, 147, 153.  
*Pycnopsyche* sp., 193.  
Pyrallidae, 9.

- Ranatra* sp., 192.  
*Rhagovelia obesa*, 40.  
*Rhyacophila lobifera*, 146, 148.  
Rhyacophilidae, 146, 148.  
*Rhynchopolipus*, 100.
- Scarabaeidae, 32.  
Scutelleridae, 160.  
Scutelleroidea, 159-162.  
Sahirinae, 160.  
*Sehirus cinctus cinctus*, 160.  
Sialidae, 40, 192.  
*Sialis* sp., 40, 192.  
*Sigara modesta*, 40.  
Simuliidae, 41, 46-48, 177-208.  
*Simulium aureum*, 178, 183, 184,  
195, 197, 200, 203,  
204.  
*Simulium decorum*, 178, 183,  
184, 196, 197, 201.  
*Simulium excisum*, 178, 181,  
183-185, 195, 197, 200.  
*Simulium jenningsi*, 181, 196,  
197.  
*Simulium latipes*, 183.  
*Simulium luggeri*, 181, 197.  
*Simulium pugetense*, 178, 181,  
183, 195, 197, 200.  
*Simulium* sp., 41, 186, 187, 188.  
*Simulium subexcisum*, 183.  
*Simulium tuberosum*, 181, 196,  
197, 201.  
*Simulium venustum*, 178, 181, 184,  
185, 196, 197, 202, 204.  
*Simulium verecundum*, 178, 181,  
182, 184, 185, 196,  
197, 201.  
*Simulium verum*, 177, 178, 181,  
183, 184, 195, 197,  
200, 203, 204.  
*Simulium vittatum*, 178, 181,  
182, 184, 185, 196,  
197, 201-204.
- Siphonuridae, 191.  
*Siphonurus* sp., 191.  
*Sitona hispidula*, 251, 253.  
Sminthuridae, 217-241.  
*Sminthurinus elegans*, 222.  
*Sminthurinus henshawi*, 222.  
*Sminthurinus megoculatus*, 222.  
*Sminthurinus* (*Metakatianna*)  
*macgillivrayi*, 217.  
*Sminthurinus* (*Polykatianna*)  
*intermedius*, 217,  
218.  
*Sminthurinus* (*Polykatianna*)  
*polygonius*, 217,  
218.  
*Sminthurinus quadrimaculatus*,  
221.  
*Sminthurinus* (*Sminthurinus*)  
*atrapallidus*, 219-  
221.  
*Sminthurinus* (*Sminthurinus*)  
*conchyliatus*,  
220, 221.  
*Sminthurinus* (*Sminthurinus*)  
*maculosus*,  
222, 223.  
*Sminthurus*, 236.  
*Sminthurus incisa*, 239-  
241.  
*Sminthurus viridis*, 241.  
*Soyedina vallicularia*,  
140.  
Spechidae, 175, 176.  
*Sphyrotheca confusus*,  
233-236.  
*Sphyrotheca minnesotensis*,  
236.  
*Sphyrotheca mucroserratus*,  
235, 236.  
Staphylinidae, 23, 32, 33.  
*Stegopterna*, 177.  
*Stegopterna mutata*,  
178, 181, 183-188,  
195, 196, 199, 202,  
203, 205.  
*Stenacron interpunctatum*,  
39, 209-216.  
*Stenacron* sp., 191.  
*Stenelmis sexlineata*, 40.  
*Stenocrepis cuprea*, 32.  
*Stenolophus comma*, 32.  
*Stenolophus lecontei*, 32.  
*Stenolophus ochropezus*, 32.  
*Stenonema fuscum*, 261.  
*Stenonema fuscum rivulic-*  
*olum*, 261.  
*Stenonema integrum*, 39.  
*Stenonema nepotellum*, 39.  
*Stenonema* sp., 39, 191.  
*Stenonema terminatum*, 39.  
*Stenonema vicarium*, 261.  
*Stenus* spp., 32, 34.

- Stethaulax marmorata*, 160.  
*Stigmacarus*, 100.  
*Stiretrus anchorago fimbriatus*,  
 161.  
 Stoneflies, 45-48, 139-142.  
*Stratiomyia* sp., 193.  
 Stratiomyidae, 41, 193.  
*Stratiomys* sp., 41.  
*Sweltsa mediana*, 142.  
 Symphypleona, 217-241.
- Tabanidae, 41, 193.  
 Tachinidae, 8.  
*Tachyporus* sp., 32.  
*Tachys anceps*, 32.  
*Tachys coruscus*, 32.  
*Tachys incurvus*, 32.  
*Tachys obliquus*, 32.  
*Tachys proximus*, 32.  
*Tachys saturatus*, 32.  
*Tachys scitulus*, 32.  
*Tachys vivax*, 32, 35.  
 Taeniopterygidae, 40, 142.  
*Taeniopteryx burksi*, 40.  
*Taeniopteryx maura*, 142.  
*Taeniopteryx metequi*, 142.  
*Tanypus grodhausi*, 89.  
*Tapinoma sessile*, 9.  
 Tarsonemidae, 93.  
*Tetrapolipus blattae*, 93, 96,  
 97, 99.  
*Tetrapolipus oudemansi*, 93-100.  
*Thyanta calceata*, 71-76, 155-158,  
 161.  
*Thyanta pallido-virens accerra*,  
 161.
- Thyreocoridae, 160.  
*Timpanoga*, 137.  
*Tipula* sp., 41, 193.  
 Tipulidae, 41, 193.  
*Tolmerus novaescotiae*, 175.  
*Trienodes abus*, 147, 151.  
*Trienodes dipsius*, 147, 151.  
*Trienodes ignitus*, 147, 151.  
*Trienodes injustus*, 147, 151.  
*Trienodes marginatus*, 147, 152.  
*Trienodes nox*, 147, 152.  
*Trienodes tardus*, 147, 152.  
*Trichocorixa calva*, 40.  
*Trichocorixa* sp., 40.  
*Trichopepla semivittata*, 161.  
 Trichoptera, 40-42, 45-48,  
 143-154, 192.  
 Tricorythidae, 39.  
*Tricorythodes atratus*, 39.  
*Tropicus pusillus*, 33.  
*Tropisternus lateralis*, 40.  
*Tropisternus mixtus*, 40.  
*Tropisternus* sp., 32, 192.
- Uranotaenia sapphirina*, 52.
- Veliidae, 40.  
 Vespidae, 9, 105-116.
- West Virginia White, 53.  
*Wormaldia moesta*, 146, 149.  
*Wormaldia shawnee*, 146, 149.
- Zanclognatha jacobusalis*, 9.  
 Zygoptera, 191.