

AN ALL-TAXA BIODIVERSITY INVENTORY OF THE HURON MOUNTAIN CLUB

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DEDICATION

This project is dedicated to

Dr. William R. Manierre,

*who is responsible, directly and indirectly, for documenting
a large proportion of the taxa listed here.*

INTRODUCTION

No complete species inventory exists for any area. Particularly charismatic groups – birds, large mammals, butterflies – are thoroughly documented for many areas (including the Huron Mountains), but even these groups present some surprises when larger or more remote areas are examined closely, and range changes lead to additions and subtractions. Other higher-level taxa are generally much more poorly documented; even approximate inventories exist for only a few, typically restricted locales. The most diverse taxa (most notably, in terrestrial ecosystems, insects) and many of the most ecologically important groups (decay fungi, soil invertebrates) are, with few exceptions, embarrassingly poorly documented.

The notion of an ‘all-taxon biodiversity inventory’ (or ATBI) – a complete listing of species, of all taxonomic groups for a defined locale – is of relatively recent vintage, originating with ecologist Daniel Janzen’s initiative to fully document the biota of Costa Rica’s Guanacaste National Park. Miller (2005) offers a brief history of ATBI efforts, and notes that only three significant regional efforts appear to be ongoing. Two involve whole countries – Costa Rica and Sweden – and the third, the only one in the United States, covers Great Smoky Mountains National Park (GSMNP) (<http://www.dlia.org/>). This latter project has documented a vast number of range extensions and has led to the recognition of over 500 new species. Nonetheless, only about 15,000 of the estimated 100,000 species in the Park have been listed.

Even an inventory of only macroscopic biodiversity demands substantial and extended effort. Is that effort warranted? Are ATBI’s a good use of resources? Do they have scientific or conservation management value? These questions are not simply answered. However, if species can in some manner be considered one of the fundamental units in the biological world, it may be disconcerting that they are so sparsely documented. Aldo Leopold suggested, in *A Sand County Almanac*, that the “first rule of intelligent tinkering is to save all the parts.” The most immediate and practical values in documenting species diversity concern assessment and management of environmental and ecological change. Without knowledge of local and regional biotas, it is impossible to assess whether and how they might be changing.

Historical reports from research sponsored by the Huron Mt. Wildlife Foundation (HMWF) of biodiversity studies at the Huron Mts. amounted to a substantial head-start on a ‘landscape-scale’ ATBI. This paper began with a compilation of existing reports in 2007, with an effort to assess reliability and to check and update taxonomy. Spatially, this ATBI addresses the lands of the Huron Mt. Club (HMC), currently about 10,000 ha (HMC lands have been increased, over the period of documentation, by several purchases). This is a small area compared to the ATBI’s mentioned in Miller (2005), and, from an ecological perspective, arbitrarily defined. However, the range of terrestrial and aquatic habitats within HMC lands is unusually large, as is the variety of disturbance histories and successional states. Large tracts of unlogged forest and unusually pristine lakes and streams are particularly notable, and likely to host species lost from more disturbed landscapes. Consequently, the taxonomic inventory of HMC lands should be representative of a much larger landscape around central and western Lake Superior. The diversity of this landscape is borne out by comparison with the GSMNP inventory; to date, the total diversity documented within the boundaries of the HMC is about 1/3 of that for the GSMNP, even though GSMNP is more than twenty times larger.

While many of the source documents for this list are published, many more are unpublished reports by investigators sponsored by HMWF. Copies of these reports can be obtained from the Foundation (see www.hmwf.org). Most reports are from the last three decades, but some are much older (as early as the 1920s). Consequently, changes in taxonomic status are many. I have attempted to use current sources to bring nomenclature up to date (see documentation for particular taxonomic groups). This has been difficult for some groups, and I have been unable to determine the status of a few taxa. Consultation with specialists for each group would be prohibitive. The several revisions of this paper have focused on addition of new records; not all taxa have been thoroughly updated since 2007. However, while I do not perfect taxonomic correctness, and changes are rapid in some groups, I am confident that the vast majority of names listed are reasonably consistent with current accepted usage, and all can be tracked through any recent changes in taxonomy.

It is quickly apparent that not all taxa have not been equally thoroughly documented. Some groups have received unusually complete treatment, due to their charisma (most notably, of course, mammals and birds), or because they have received the attention of particularly dedicated individuals (for example, bryophytes, lichens, and, among

insects, Family Cerambycidae and Order Odonata). However, as in all diversity inventories, knowledge of the microbiota is particularly wanting. Soil-dwelling invertebrates, some groups of fungi, zooplankton, and other microorganisms are virtually unknown. Several groups of arthropods that surely host great diversity are little studied (there has been no documentation of spiders!). Extrapolating from other estimates of the relative diversity of different taxonomic groups, it would be reasonable to assume that the approximately 2000 arthropods documented thus far constitute no more than 10% of those actually present. Thus, the current total of 5193 recognized taxa (Table 1) is a small sample of, likely, at least ten times that number of multi-cellular organisms (or of the probably hundreds of thousands of species including microorganisms) likely present. To date, the total includes (subject to ongoing rearrangements of higher taxa), 11 kingdoms, around 35 phyla, 70 classes, over 250 orders, over 700 families, and over 2400 genera. The current listing, after accounting for a variety of taxonomic changes as well as new observations, adds more than 400 species since 2011 (and more than 700 since 2007), mostly arthropods, to the previous (July 2011) revision.

Table 1: Documented distinct taxa: current totals by major groups

Monera ('bacteria')	
Cyanobacteria ('blue-green algae')	25
Other Eubacteria (orders only)	17
Archaeobacteria	1
Miscellaneous taxa of 'algae'	82
Plants (Kingdom Viridiplantae)	
Chlorophyta ('green algae')	116
Bryophyta <i>sensu lato</i> (mosses and liverworts)	370
Tracheophyta (vascular plants)	834
Lichens	326
Kingdom Fungi	
Deuteromycota	25
Chytridiomycota	38
Zygomycota	10
Ascomycota	104
Basidiomycota	708
Kingdom Animalia	
Miscellaneous phyla of invertebrates	66
Phylum Mollusca	63
Arthropods	
Miscellaneous groups	93
Insecta	2234
Vertebrates	376
Grand Total	5470

A NOTE ON TAXONOMIC PHILOSOPHY AND STRUCTURE

There are differing, sometimes conflicting philosophies of biological taxonomy. In the interests of combining a familiar, recognizable structure with modern evolutionary understanding, I have attempted to recognize and merge systems that are not always entirely compatible. The traditional taxonomic hierarchy of Kingdom, Phylum (or 'Division' for botanists), Class, Order, Family, Genus, Species has the virtue of familiarity (not to mention deep entrenchment). So far as possible, I have retained a hierarchical structure here; think of a series of containers of different sizes (each size corresponding to one of the seven taxonomic levels), each container belongs within one (and only one) of the next larger type of containers, and contains some variable number of containers of the next smaller type. Sometimes, as with lichens, this is not strictly possible. In any case, more modern taxonomic thinking focuses on phylogeny, or evolutionary relationships among lineages or clades rather than the traditional 'levels' of higher taxa; think of each modern species as a twig-tip at the top of a highly and intricately branched tree-like structure.

Branches of the tree with taxonomic levels can be roughly equated with traditional higher taxonomic levels ('main' branches with classes and phyla, more superficial branches to families and genera). However, some arbitrariness becomes evident. Just how deep in the branching structure does a branch have to originate to warrant 'class' status? Within any class, say, some of the internal branches will be quite deep (departing from other members of the class near the origin of the class), others less deep, yet we can't adequately recognize this in conventional nomenclature. Some taxonomists prefer to focus on the structure of the evolutionary or phylogenetic tree and de-emphasize the nomenclatural hierarchy; this is, more or less, the 'cladistic' school of thought (a 'clade' is a particular sub-branch – all of the descendants of some ancestral organism). Within cladistics, some extreme positions advocate dropping the traditional taxonomic nomenclature altogether, but most taxonomists don't go that far.

Here, however, is a primary principle that pretty much everyone agrees to, and to which I've tried to adhere: *taxonomic categories should be monophyletic*; that is, they should apply to a single branch or clade in its entirety. A category should be defined by a particular common ancestor, and should include all the species descended from that common ancestor. If a species is descended from the first bird (Class Aves), it is a bird; if it is not descended from that ancestor, it is not a bird.

This has forced some significant reorganizations of traditional taxonomy. Perhaps most notoriously, the traditional Class Reptilia, including turtles, lizards, snakes, and crocodiles, has to be rejected. The 'most recent common ancestor' (a key term in this construct) of all of these creatures is also the ancestor of birds and mammals! Or, put another way, the lineages (branches) that lead to modern crocodiles and turtles diverged, long ago, from another lineage or branch that much later split to produce birds, mammals, snakes and lizards (not to mention dinosaurs). The traits that define traditional reptiles (leathery eggs, scales, etc.) are shared by all of those groups because they are very ancient traits that have not been lost by crocodiles, turtles, or birds; the ancestors of mammals and birds had them, too (think duck-billed platypus). So, Class Reptilia must either a) be limited to snakes and lizards (which are, in fact, quite recently related), b) be enlarged to include birds and mammals (and these groups thus demoted to sub-class status), or c) be discarded as a formal taxonomic category. Most taxonomists agree that the latter course is best.

Much of this has happened because of the advent of modern genetic tools that allow more precise analysis of evolutionary relationships. The resulting understanding of the whole tree of life has even changed our understanding of how many Kingdoms there should be. In particular, groups classified in the catch-all Kingdom Protista in the five-kingdom structure of modern textbooks (or, earlier, as 'protozoans' and 'algae' in the animal and plant kingdoms) are not closely related at all, but are branches that are equally ancient (or 'basal') to other Kingdoms. Many traditional algal groups are more closely related to either animals or plants than to other protists. Even more fundamentally, some groups of non-nucleated (prokaryotic) single-cell organisms (colloquially "bacteria", Kingdom Monera in the five-kingdom structure) are more closely related to animals, fungi, and plants than they are to other bacteria! In other words, the main groups of prokaryotes separated very early in life's history, and represent very distinct clades. Traditional Kingdom concepts are inadequate for conveying a clear picture of higher-level phylogenetic relationships, and modern taxonomists tend to recognize many more kingdoms (ranging from a dozen or so up to thirty or more). Ten are recognized here.

Modern, phylogenetic taxonomists have taken several approaches to the problem of reconciling higher-level taxonomy with cladistic relationships. I follow Tudge (2000) and others in grouping organisms into three great 'DOMAINS'. Domains BACTERIA and ARCHAEA are both 'bacteria-like' in being without internal, membrane-bound structures like nuclei ('prokaryotes'). Domain EUCARYA – organisms with internal organelles, including nuclei – is a sibling group with the ARCHAEA and includes all other organisms, including single-celled groups (traditional protozoans and algae) and the multi-cellular organisms of Kingdoms Fungi, Plantae, and Animalia.

There remain many ambiguities in taxonomic structure – several taxa recorded here have been switched back and forth between Kingdoms (not to mention families, classes, orders, phyla...) by different authorities! However, the cladistic approach has the clear advantage over earlier ones of making evolutionary sense. Throughout this document, I have tried to point to some of the more important modern reorganizations, remaining ambiguities, and equivalencies with older systems, in the comments on particular groups. I have also tried to provide references to appropriate taxonomic authorities (see below) in interspersed comments. I made particular use of web-based taxonomic resources like "ITIS" (ITIS 2002), www.bugguide.org, USDA's plant data-base, etc.

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DOMAIN BACTERIA

Nearly all of the listings for Domain BACTERIA, Phylum Cyanobacteria, and the several Kingdoms of algae and protozoa are drawn from unpublished reports by J.K. Shipley-Phillips (1998,1999,2001). The ‘green algae’ (traditionally, Chlorophyta) are included in Kingdom Plantae. All listings for other bacterial phyla are from an unpublished report from S. Techtmann (2019); in this work clades are, so far, identified to the level of Order through analysis of DNA extracted from lake waters and sediments. This analysis recognizes the presence of at least 300 microbial orders, but I list only identified, named orders. I have used ITIS (2002) as the primary taxonomic authority for all of these groups, and the ‘micro*scope’ data-base at Woods Hole Marine Biological Laboratory (2003) and the uBio “Name-Server” (2004) as additional sources. In a few cases, no authority is given for a taxon, and these taxa are listed without authority. Many generic listings lack specific epithets; these are retained as long as they are clearly distinct from other listed taxa. Note that no members of DOMAIN ARCHAEA have been documented for the Huron Mountains, although they are sure to exist. In Domain BACTERIA, only the so-called ‘blue-green algae’, or Cyanobacteria, have received any attention. Prokaryotic diversity is poorly documented everywhere (in part, because the species concept applies only crudely in these domains), and this list is no exception.

KINGDOM MONERA

Phylum ACTINOBACTERIA

Class Acidimicrobiia

Order Acidimicrobiales

Class Actinobacteria

Order Frankiales

Order Micrococcales

Phylum BACTEROIDETES

Class Cytophagia

Order Cytophagales

Class Flavobacteriia

Order Flavobacteriales

Class Sphingobacteriia

Order Sphingobacteriales

Phylum CYANOBACTERIA (CYANOPHYCOTA)

The Cyanobacteria (or ‘blue-green algae’) are the largest group of photosynthetic monerans/bacteria. It is somewhat arbitrary whether they are called a phylum within Monera, or a kingdom within Domain Bacteria; they are a very ancient group – perhaps the first photosynthetic lineage. Ancient cyanobacteria gave rise, through endosymbiosis, to the chloroplasts of most, if not all, photosynthetic Eucarya, including plants. Thus, in an odd fashion, they are a genetic ‘part-sibling’ to those groups.

Class Cyanophyceae

Order Chroococcales

Family Chroococcaceae

Aphanotheca saxicola Naeg.
Anacystis sp
Chroococcus giganteus W. West
Chroococcus limneticus Lemm.
Coelosphaerium naegelianum
Dactylococcopsis raphidosides Hansgirg
Eucapsis alpina Cl. & Shantz
Gloeocapsa granosa (Berk.) Kutz.
Gloeothece linearis Nageli
Gomphosphaeria aponina Kutz.
Holopedium irregulare Lagerheim
Merismopedia glauca (Ehr.) Naegeli
Merismopedia major (G.Smith) Geitler
Merismopedia sp
Microcystis aeruginosa (Kutzing) Lemmerman
Microcystis flos-aquae (Wittr.)
Microcystis sp

Order Nostocales

Family Nostocaceae

Anabaena spiroides
Anabaena sp
Aphanizomenon flosaquae J.Ralfs Ex Bornet & Flah.
Aphanizomenon sp
Lyngbya sp
Nostoc sp

Family Oscillatoriaceae

Oscillatoria sp

Order Stigonematales

Family Stigonemataceae

Stigonema muscicola (Thur.) Borzi

Phylum NITROSPIRAE

Class Nitrospira

Order Nitrospirales

Phylum PLANKTOMYCETES

Class Planctomycetacia

Order Planctomycetales

Phylum PROTEOBACTERIA

Class Alphaproteobacteria

Order Rhizobiales

Order Rhodospirillales

SAR11 clade

Class Betaproteobacteria

Order Burkholderiales
Order Methylophilales
Order Nitrosomonadales

Class Gammaproteobacteria

Order Xanthomonadales

Phylum VERRUCOMICROBIA

Class Spartobacteria

Order Chthoniobacterales

Class Verrucomicrobia Incertae Sedis

Order unknown

DOMAIN ARCHAEA

Formerly classed with the ‘true’ bacteria, now Domain Eubacteria, the ‘archaeans’ were recognized in the 1970s as a distinct evolutionary branch, separate from the Eubacteria from a very early point in the evolution of life, and, in fact, showing a more recent genetic common ancestry with Domain Eukaryota. When initially recognized as a distinct group, known archaeans were nearly all ‘extremophiles’, associated with high temperatures, high salinity, etc. Understanding of the diversity and distribution of this Domain is still in flux, but archaeans have proven to be much more diverse and widely distributed than initially thought.

KINGDOM(?) WOESARCHAEOTA

Studies by Techtman (unpublished report, 2019) found DNA sequences associated with this group in water and sediments of several lakes. This group, only recently recognized and of somewhat unclear standing (Kingdom? Sub-kingdom? Phylum?) were previously thought to be primarily associated with deep-sea thermal vents, but now appear to be much more widely spread. The Woesearchaeota are primarily associated with anoxic environments, and some appear to be autotrophic (carbon-fixing) via, possibly, multiple metabolic pathways. Techtman’s work, while documenting presence of this group, but more detailed understanding of diversity and taxonomy within the group is not available.

DOMAIN EUCARYA

This grouping includes all organisms with membrane-bound cell organelles – especially nuclei. The traditional kingdoms including multi-cellular organisms belong here, and the Eukaryotes are thought to be monophyletic. Until recently, all other eukaryotes -- a wide array of mostly (but not entirely) single-celled organisms – were grouped into Kingdom Protista. Protista was always recognized as a ‘catch-all’ grouping that was not truly monophyletic – in other words, a ‘grade’ based on structural similarity, and not a ‘clade’ based on common, monophyletic descent. In fact, some protist “phyla” are much more closely related to the ‘crown’ groups of plants, animals, and fungi than they are to other protists. It is likely that there will never be universal agreement on just how to arrange the old Protista into a more phylogenetically accurate kingdom-phylum-class structure, and paraphyletic groups will continue to be used for convenience. However, new genetic work is gradually resolving the likely pattern of evolutionary lineages within the group. I have chosen to follow Tudge (2000) in recognizing the larger, recognizable lineages of prokaryotes as kingdoms. Other authorities treat them differently. For example, several “kingdoms” of photosynthetic protists – the algae – are classified by ITIS as phyla within Kingdom Plantae, even though they are not monophyletic with the plants.

KINGDOM EUGLENOZOA

An odd group, their phylogeny long-debated. Tudge (2000) calls them “protozoans like quaint little cigars with a gullet at the front and a forward-pointing flagellum”, and places them in one of several relatively basal kingdoms of Eucarya.

Phylum EUGLENOPHYCOTA

Class Euglenophyceae

Order Euglenales

Family Euglenaceae

Euglena caudata

Euglena sp

Euglena polymorpha Dangeard

Phacus brevicaudatus (Kelbs) Lemmermann

Phacus quinquemarginatus

Phacus lemmermannii (Sevir.) Skvortzow

Phacus sp.

Trachelomonas charkowensis

Trachelomonas hispida (Perty) Stein

Trachelomonas horrida

Trachelomonas volvocina Ehrmb.

Trachelomonas sp

Order Heteronematales

Family Paranemataceae

Paranema sp

KINGDOM RHODOPHYTA

The red algae are a large and important marine group, but relatively rare and few in fresh-water.

Phylum RHODOPHYCOTA

Class Rhodophyceae

Order Nemaliales

Family Batrachospermaceae

Batrachospermum boryanum Sirod.

Batrachospermum macrosporum Sirod.

KINGDOM DINOFLAGELLATA (Pyrrophyta)

Another group of single-celled photosynthetic creatures whose phylogenetic relationships have been debated. Tudge (2000) groups them with two other protozoan kingdoms in an informal clade “Alveoles”, and describes them as, “like tiny, cracked, but mobile meringues, encased in a hard test and propelled by a single, long flagellum.” They are primarily marine, but some species occur in fresh water. Taxonomy for some of these species appears to be rather fluid; assignment to genera varies from source to source, and the listing below is, therefore, tentative.

Phylum CRYPTOPHYCOTA

Placement of the cryptomonads is debated; they may be more closely related to the red algae (Kingdom Rhodophyta), or something else entirely. For now, they are left as a sister group to the dinoflagellates

Class Cryptophyceae

Order Cryptomonadales

Family Cryptomonadaceae

Cryptomonas ovata Ehren.

Cryptomonas sp.

Phylum PYRROPHYCOTA

Class Chloromonadophyceae

Order Chloromonadales

Family Chloromonadaceae

Merotricha sp

Class Dinophyceae

Order Gonyaulacales

Family Ceratiaceae

Ceratium hirundinella Dujardin

Ceratium sp

Order Gymnodiniales

Family Gymnodiniaceae

Gymnodinium palustre Schilling

Gymnodinium sp

Order Peridinales

Family Glenodiniaceae

Glenodinium montanum Klebs

Peridiniopsis pnardiforme (Lindemann) Bourrelly

Family Glenodiniopsidaceae

Hemidinium sp

Family Peridiniaceae

Peridinium cinctum (Müller) Ehrenberg

Peridinium limbatum

Peridinium sp

Order Phytodiniales

Family Phytodiniaceae

Cystodinium sp

Hypnodinium sphaericum Klebs

STRAMENOPILES or HETEROKONTOPHYTA are a recently recognized monophyletic grouping, or clade, of several important lineages of 'protists', including, here, Kingdoms Chrysophyta ('golden algae'), Xanthophyta ('yellow-green algae'), and Chromista ('diatoms'). The Stramenopile clade is probably a sister group of the multi-cellular clade that includes Plantae, Animalia, and Fungi.

KINGDOM XANTHOPHYTA

Phylum RAPHDOPHYTA (possibly should be assigned to a distinct Kingdom)

Class Raphidophyceae

Order Raphidomonadales

Family Vacuolariaceae

Gonyostomum sp

Phylum XANTHOPHYCOTA

Class Xanthophyceae

Order Mischococcales

Family Pleurochloridaceae

Chloridella neglecta

Elippsoidion sp

Order Rhizochloridales

Family Stipitococcaceae

Stipitococcus capense Prescott

Order Tribonematales

Family Tribonemataceae

Bumilleria sicula Borzi

Tribonema minus

Tribonema sp

KINGDOM CHRYSOPHYTA

Phylum CHRYSOPHYCOTA

Class Chrysophyceae

Order Chrysosphaerales

Family Chrysosphaeraceae

Chrysosphaera nitens

Order Ochromonadales

Family Dinobryaceae

Dinobryon bavaricum Imhof
Dinobryon sertularia Ehrenberg
Dinobryon divergens Imhof
Dinobryon eurystoma Hillard and Asmund
Dinobryon stipitatum Stein

Family Ochromonadaceae

Ochromonas sp
Uroglenopsis sp.

Family Synuraceae

Mallomonas acaroides Perty
Mallomonas caudata Iwanoff
Mallomonas pseudocoronata Prescott
Synura uvella Ehrenberg
Synura sp

Order Rhizochrysidales

Family Rhizochrysidaceae

Rhizochrysis limnetica G.M. Smith
Rhizochrysis scherffellii Pascher

KINGDOM CHROMISTA

These are the diatoms, traditionally a phylum of algae within Kingdom Protista (and, earlier, Kingdom Plantae). Diatoms are quite distinctive structurally and phylogenetically. They are exclusively single-celled, and have the unique trait of building two-valved silicate shells or exoskeletons. They are also important and diverse in all aquatic systems, both fresh- and salt-water, both in the plankton and on surfaces receiving sufficient light. Their diversity at the Hurons is certainly much larger than documented thus far. This list is drawn from unpublished reports by J.K. Shipley-Phillips (1999,2001)

Phylum BACILLARIOPHYTA

Class Bacillariophyceae

Order Achnanthes

Family Achnanthaceae

Achnanthes sp
Cocconeis sp.

Order Cymbellales

Family Cymbellaceae

Cymbella tumida (Breb.) Van Heurck
Cymbella sp

Family Gomphonemataceae

Gomphonema sp

Order Eunotiales

Family Eunotiaceae

Eunotia major (W.Sm.) Rabenh.
Eunotia sp

Order Naviculales

Family Naviculaceae

Navicula sp

Family Pinnulariaceae

Pinnularia sp

Family Stauroneidaceae

Stauroneis sp

Order Rhopalodiales

Family Rhopalodiaceae

Epithemia sp

Order Surirellales

Family Entomoneidaceae

Entomoneis ornata (J.W.Bail.)C.W.Reimer

Family Surirellaceae

Surirella sp

Order Thalassiophysales

Family Catenulaceae

Amphora sp

Class Coscinodiscophyceae

Order Melosirales

Family Melosiraceae

Melosira granulata (Ehrenberg) Ralfs

Melosira sp

Order Rhizosoleniales

Family Rhizosoleniaceae

Urosolenia eriensis (H.L.Sm.)Round & R.M.Crawford

Urosolenia longiseta (Zach.) M.B. Edlund & Stoermer

Order Thalassiosirales

Family Stephanodiscaceae

Cyclotella sp 1

Cyclotella sp 2

Stephanodiscus sp

Class Fragilariophyceae

Order Fragilariales

Family Fragilariaceae

Asterionella formosa Hassal

Fragilaria sp

Meridion circulare (Grev.) C.Agardh

Synedra sp 1

Synedra sp 2

Order Tabellariales

Family Tabellariaceae

Tabellaria fenestrata (Lyng.) Kutzling

Tabellaria flocculosa (Roth.) Kut.

Tabellaria sp 1

Tabellaria sp 2

KINGDOM VIRIDAEPLANTAE (PLANTAE)

The traditional plant kingdom is now merged with the green algae in Kingdom Viridiplantae, recognizing the phylogenetic continuity between these groups. The traditional separation is between Phylum Chlorophyta (the 'green algae', which range from single-cell organisms to large, membranaceous structures with tissue differentiation), and multi-cellular, archegoniate groups (sometimes classed as 'embryophytes') commencing with Phylum Bryophyta. Division of the plant kingdom into phyla is not very consistent among authorities; in keeping with current phylogenetic interpretations, we recognize seven phyla (note that we use 'phylum' here rather than the more traditional -- in plant taxonomy -- 'Division'; this is in keeping with many recent authorities, and makes for more consistency across Kingdoms). These groups have often been 'lumped' into a smaller number of larger phyla (e.g., Bryophyta *sensu lato*, Tracheophyta), but these groups are probably better considered informal groups, since they do not clearly reflect current understanding of evolutionary relationships.

Phylum CHLOROPHYTA

The 119 species of green algae ("algae" being recognized as a 'grade' – a level of organization among photosynthetic organisms – rather than a phylogenetic group or clade) listed here are compiled from unpublished reports by J.K. Shipley-Phillips (1999,2001). This group includes several orders, including "desmids" (Order Zygnemetales). Other traditional 'algae' groups are phylogenetically grouped in other eukaryotic kingdoms (or, traditionally, phyla within Kingdom Protista); the blue-green 'algae', or Cyanobacteria are prokaryotes, in the Bacteria.

Class Chlorophyceae

Order Chaetophorales

Family Chaetophoraceae

Aphanochaete polychaete (Hansg.) Fritsch

Aphanochaete repens A. Braun

Aphanochaete sp

Draparnaldia judayi Prescott

Draparnaldia sp

Order Chlorococcales

Family Characiaceae

Characium ambiguum Hermann

Characium obtusum A.Br.

Characium sp

Family Coccomyxaceae

Gloeocystis gigas (Kutzing) Lagerhei

Gloeocystis vesiculosa Naegeli

Family Dictyosphaeriaceae

Botryococcus sp

Dictyosphaerium pulchellum Wood

Dictyosphaerium sp

Family Hydrodictyaceae

Pediastrum boryanum (Turpin) Meneghini

Pediastrum duplex Meyen

Pediastrum glanduliferum

Pediastrum sp

Family Micractiniaceae

Golenkinia radiata Chodat

Family Oocystaceae

Ankistrodesmus falcatus (Corda) Ralfs

Ankistrodesmus quarternus W.West &G.S. West

Ankistrodesmus spiralis Turner Lemm

Ceraterias irregulare G.M. Smith

Kirchneriella obesa aperta (Teil.) Brunthaler

Nephrocytium limneticum (Smith)Kuetzing
Oocystis borgei Snow
Oocystis lacustris Chodat
Oocystis parva West & West
Planktosphaeria gelatinosa G.M.Smith
Quadrigula chodatii (Tanner-Fullman) G.M. Smith
Quadrigula closteriodes (Bohlin.) Printz
Radiococcus nimbatus (de Wild.) Schmidle

Family Scenedesmaceae

Coelastrum angustae armatum Skuja
Coelastrum cambricum Archer
Coelastrum chodati Ducell.
Coelastrum microporum Naeg
Coelastrum sp
Crucigena crucifera (Wolle) Coilins
Crucigenia rectangularis (Nag.) Gay
Crucigenia tetrapedia (Kirch.) W. & G.S.West
Elakatothrix sp.
Elakatothrix gelatinosa Wille
Elakatothrix viridis (Snow) Printz
bijuga alternans (Reinsch) Hansg.
Scenedesmus obliquus (Turpin) Kuetzing
Scenedesmus quadricauda (Turpin) Breb.
Scenedesmus sp

Order Microsporales

Family Microsporaceae

Microspora sp

Order Oedogoniales

Family Oedogoniaceae

Bulbochaete sp
Oedogonium ambiceps (Jao) Tiffany
Oedogonium sp

Order Tetrasporales

Family Palmellopsidaceae

Palmodictyon varium (Naeg.) Lemm.
Palmodictyon sp
Sphaerocystis schroeteri Chodat

Order Ulitrochales

Family Ulotrichaceae

Radiofilum conjunctivum Schmidle
Ulothrix sp

Order Volvocales

Family Chlamydomonadaceae

Carteria polychloris Pascher (synonymous with *Chlorangium polychlorum* Skuja?)
Chlamydomonas sp
Gloeomonas ovalis Klebs

Family Volvocaceae

Carteria fretschii Takeda
Eudorina elegans Ehrenberg
Gonium sp
Volvox sp

Order Zygnematales

Family Desmidiaceae

Arthrodesmus octocornis Ehrenb.
Arthrodesmus impar (J.Jacobsen) Grønblad
Arthrodesmus incus indentatus West and West
Arthrodesmus ralfsii W.West
Arthrodesmus sp
Bambusina sp
Closterium acerosum (Shrank) Ehrbg.
Closterium attenuatum Ehrbg.
Closterium exile W.West & G.S.West
Closterium intermedium Ralfs
Closterium lineatum Ehrbg.
Closterium setaceum Ehrbg.
Closterium sp
Closterium sp3
Cosmarium sp
Desmidium aequale West&West
Desmidium baileyi (Ralfs) Nordstedt
Desmidium sp
Euastrum gemmatum Brebisson
Euastrum sp.
Hyalotheca sp
Micrasterias laticeps Nordst.
Micrasterias sp.
Penium margaritaceum (Ehrenberg) Brebisson
Penium sp
Pleurotanium constrictum (Bailey) Wood
Pleurotanium ehrenbergii (Brebisson) DeBary
Pleurotanium nodosum (Bailey) Lundell
Pleurotanium subcoronulatum Turner
Pleurotanium trabecula (Ehrenberg) Naegeli
Pleurotanium sp1
Pleurotanium sp2
Sphaerososma sp
Spondylosium sp
Staurastrum rugosum Irenece-Marie
Staurastrum sp
Staurastrum longiradiatum West&West
Staurastrum pentacerium obesum G.M.Smith
Staurastrum sonthalianum W.B.Turner
Staurastrum smithii Teiling
Staurastrum zonatum Borgesen
Stauroidesmus cuspidatus (Brebisson) Teil.
Xanthidium subhastiferum towerii (Cushman) G.M.Smith
Xanthidium sp.

Family Mesotaeniaceae

Gonatozygon kinahani (Archer)Rabh.
Gonatozygon sp
Netrium digitus (Breb. Ex Ralfs)Itzig. And Rothe
Netrium sp.

Family Zygnemataceae

Mougeotia sp
Spirogyra sp1
Spirogyra sp2

Teilingia granulata (Roy and Biss.) Bourrelly
Teilingia sp
Zygnema sp.

Phylum BRYOPHYTA

The 'bryophytes' (here, three phyla: Bryophyta, the mosses; Marchantiophyta, or 'Hepatophyta', the liverworts; and Anthocerotophyta, the hornworts) are thoroughly documented by Dr. William Manierre (Manierre 1999, 2002, and subsequent personal communications) and this listing is drawn entirely from his work. Aside from a very few species recorded by Nichols (1935) but not directly observed by Manierre, all species listed here have been directly observed and authenticated by Manierre. We have, in general, retained the species nomenclature of Manierre (which, in turn, follows Crum and Anderson (1981) and Anderson *et al.* (1990)), but have generally adhered to the family sequence from *Bryophyte Flora of North America* (Flora of North America Association 2001). The exceptions, where *Bryophyte Flora of North America*, changes names used by Manierre, are as follows: *Limprichtia cossonii* is reassigned to *Scorpidium*, *Desmatodon obtusifolius* to *Plaubelia springellii*, and *Haplohymenium* is reassigned to *Anomodon* (so *Haplohymenium triste* becomes *Anomodon tristis*). Orders of bryophytes are not very stable and often are not used in publications of bryophyte floras; for consistency, we have attempted to provide ordinal classification, but it is not from any single authoritative source (none appears to exist), and it should not be surprising if it does not agree with any particular source. The hornworts are sometimes grouped with the liverworts; we have maintained the single documented species for the Huron Mt. Club as a separate phylum. Currently, the list includes 290 species of mosses, 87 of liverworts, and 1 hornwort.

Class Sphagnopsida

Order Sphagnales

Family Sphagnaceae

Sphagnum angustifolium (C. Jens. ex Russ.) C. Jens. in Tolf
Sphagnum capillifolium (Ehrh.) Hedw.
Sphagnum centrale C. Jens. in Arnell & C. Jens.
Sphagnum compactum DC. in Lam. & DC.
Sphagnum contortum Schultz
Sphagnum cuspidatum Ehrh. ex Hoffm.
Sphagnum fallax (Klinggr.) Klinggr.
Sphagnum fimbriatum Wils. in Wils & Hook. f. in Hook. f. var. *fimbriatum*
Sphagnum fuscum (Schimp.) Klinggr.
Sphagnum girgensohnii Russ.
Sphagnum lescurii Sull. in Gray
Sphagnum magellanicum Brid.
Sphagnum magus (Russ.) C. Jens.
Sphagnum papillosum Lindb.
Sphagnum pulchrum (Lindb. ex Braithw.) Warnst.
Sphagnum pulustre L.
Sphagnum quinquefarium (Lindb. ex Braithw.) Warnst.
Sphagnum recurvum P. Beauv.
Sphagnum riparium Aongstr.
Sphagnum rubellum Wils.
Sphagnum russowii Warnst.
Sphagnum squarrosum Crome
Sphagnum subsecundum Nees in Sturm var. *subsecundum*
Sphagnum tenellum (Brid.) Bory
Sphagnum tenerum Sull. & Lesq. in Sull. in Gray
Sphagnum teres (Schimp.) Aongstr. in Hartm.
Sphagnum warnstorffii Russ.
Sphagnum wulfianum Girg.

Class Andreaeopsida

Order Andreaeales

Family Andreaeaceae

- Andreaea rothii* Web. & Mohr var. *rothii*
- Andreaea rupestris* Hedw. var. *rupestris*
- Andreaea rupestris* var. *papillosa* (Lind.) Podp.

Class Bryopsida

Order Tetraphidales

Family Tetraphidaceae

- Tetraphis pellucida* Hedw.

Order Buxbaumiales

Family Buxbaumiaceae

- Buxbaumia aphylla* Hedw.

Order Polytrichales

Family Polytrichaceae

- Atrichum angustatum* (Brid.) Bruch & Schimp. in B.S.G.
- Atrichum undulatum* (Hedw.) P. Beauv.
- Polytrichastrum alpinum* (Hedw.) G.L. Sm. var. *alpinum*
- Polytrichum commune* Hedw. var. *commune*
- Polytrichum commune* Hedw. var. *perigoniale* (Michx.) Hampe
- Polytrichum formosum* Hedw.
- Polytrichum juniperinum* Hedw.
- Polytrichum piliferum* Hedw.
- Polytrichum strictum* Brid.

Order Buxbaumiales

Family Diphysciaceae

- Diphyscium foliosum* (Hedw.) Mohr

Order Encalyptales

Family Encalyptaceae

- Encalypta ciliata* Hedw.
- Encalypta procera* Bruch

Order Funariales

Family Funariaceae

- Funaria hygrometrica* Hedw.
- Physcomitrium immersum* Sull.

Family Ephemeraceae

- Ephemerum spinulosum* Bruch & Schimp. in Schimp.

Order Grimmiales

Family Grimmiaceae

- Dryptodon patens* (Hedw.) Brid.
- Grimmia affinis* Hoppe & Hornsch. ex Hornsch.
- Grimmia anodon* Bruch & Schimp. in B.S.G.
- Grimmia anomala* Hampe ex Schimp.
- Grimmia donniana* Sm.
- Grimmia hermannii* Crum
- Grimmia olneyi* Sull.
- Grimmia pilifera* P. Beauv.

Grimmia tenerrima Ren. & Card.
Grimmia teretinervis Limpr.
Grimmia trichophylla Grev.
Grimmia unicolor Hook. in Grev.
Racomitrium aciculare (Hedw.) Brid.
Racomitrium canescens (Hedw.) Brid. var. *canescens*
Racomitrium ericoides (Web. ex Brid.) Brid.
Racomitrium fasciculare (Hedw.) Brid.
Racomitrium heterostichum (Hedw.) Brid.
Racomitrium microcarpon (Hedw.) Brid.
Racomitrium sudeticum (Funk) Bruch & Schimp. in B.S.G.
Schistidium apocarpum (Hedw.) Bruch & Schimp. in B.S.G.
Schistidium rivulare (Brid.) Podp. var. *rivulare*

Order Seligeriales

Family Seligeriaceae

Blindia acuta (Hedw.) Bruch & Schimp. in B.S.G.
Seligeria campylopoda Kindb. in Mac. & Kindb.
Seligeria pusilla (Hedw.) Bruch & Schimp. in B.S.G.
Seligeria recurvata (Hedw.) Bruch & Schimp. in B.S.G.

Order Dicranales

Family Fissidentaceae

Fissidens adianthoides Hedw.
Fissidens bryoides Hedw.
Fissidens bryoides Hedw. “*minutulus* expression”, Crum & Anderson
Fissidens dubius P. Beauv.
Fissidens osmundioides Hedw.
Fissidens taxifolius Hedw.

Family Dicranaceae

Cynodontium schisti (Web. & Mohr) Lindb.
Cynodontium strumiferum (Hedw.) Lindb.
Cynodontium tenellum (Bruch & Schimp. in B.S.G.) Limpr.
Dichodontium pellucidum (Hedw.) Schimp.
Dicranella grevilleana (Brid.) Schimp.
Dicranella heteromalla (Hedw.) Schimp.
Dicranella varia (Hedw.) Schimp.
Dicranoweisia crispula (Hedw.) Lindb. ex Milde
Dicranum condensatum Hedw.
Dicranum flagellare Hedw.
Dicranum fulvum Hook.
Dicranum fuscescens Turn. var. *fuscescens*
Dicranum montanum Hedw.
Dicranum muehlenbeckii Bruch & Schimp. in B.S.G.
Dicranum ontariense Peters
Dicranum polysetum Sw.
Dicranum scoparium Hedw.
Dicranum spurium Hedw.
Dicranum undulatum Brid.
Dicranum viride (Sull. & Lesq. in Sull.) Lindb.
Oncophorus virens (Hedw.) Brid.
Oncophorus wahlenbergii Brid.
Paraleucobryum longifolium (Hedw.) Loeske

Family Bruchiaceae

Trematodon ambiguus (Hedw.) Hornsch.

Family Leucobryaceae

Leucobryum glaucum (Hedw.) Aongstr. in Fries

Family Ditrichaceae

Ceratodon purpureus (Hedw.) Brid. var. *purpureus*

Distichium capillaceum (Hedw.) Bruch & Schimp. var. *capillaceum*

Ditrichum pusillum (Hedw.) Hampe

Saelania glaucescens (Hedw.) Broth. in Bomanss. & Broth.

Family Rhabdoweisiaceae

Rhabdoweisia crispata (With.) Lindb.

Order Pottiales

Family Pottiaceae

Bryoerythrophyllum recurvum (Griff.) Saito

Didymodon fallax (Hedw.) Zand. var. *fallax*

Didymodon rigidulus Hedw. var. *rigidulus*

Gymnostomum aeruginosum Sm.

Gyroweisia reflexa (Brid.) Schimp.

Gyroweisia tenuis (Hedw.) Schimp.

Oxystegus tenuirostris (Hook. & Tayl.) A.J.E. Sm.

Plaubelia springellii (Schwaegr.) Schimp.

Tortella tortuosa (Hedw.) Limpr.

Tortula mucronifolia Schwaegr.

Tortula ruralis (Hedw.) Gaertn. et al.

Order Splachnales

Family Splachnaceae

Splachnum ampullaceum Hedw.

Tetraplodon angustatus (Hedw.) Bruch & Schimp. in B.S.G.

Order Orthotrichales

Family Orthotrichaceae

Orthotrichum affine Brid.

Orthotrichum anomalum Hedw.

Orthotrichum obtusifolium Brid.

Orthotrichum sordidum Sull. & Lesq. in Aust.

Orthotrichum speciosum var. *elegans* (Schwaegr. In Hook.&Grev.)Warnst.

Ulota crispa (Hedw.) Brid.

Ulota hutchinsiae var. *rufescens* (Britt.)Dix.

Ulota hutchinsiae var. *hutchinsiae* (Sm.) Hammar

Order Hedwigiales

Family Hedwigiaceae

Hedwigia ciliata (Hedw.) P. Beauv.

Order Bryales

Family Aulacomniaceae

Aulacomnium androgynum (Hedw.) Schwaegr.

Aulacomnium palustre var. *imbricatum* B.S.G.

Aulacomnium palustre (Hedw.) Schwaegr.

Family Bartramiaceae

Bartramia pomiformis Hedw.

Philonotis capillaris Lindb. in Hartm.

Philonotis fontana var. *caespitosa* (Jur.) Schimp.

Philonotis fontana (Hedw.) Brid. var. *fontana*

Philonotis fontana var. *pumila* (Turn.) Brid.

Family Bryaceae

Bryum algovicum Sendtn. ex C. Müll. var. *algovicum*

Bryum alpinum Huds. ex With.
Bryum argenteum Hedw.
Bryum argenteum Hedw. var. *lanatum* (P.Blauv.) Hamf.
Bryum caespiticium Hedw.
Bryum capillare Hedw. var. *capillare*
Bryum flaccidum Brid.
Bryum lisae De Not. var. *cuspidatum* (Bruch. & Schimp. B.S.G.) Marg.
Bryum muehlenbeckii Bruch & Schimp.
Bryum pallens (Brid.) Sw. in Rohl.
Bryum pallescens Schleich. ex Schwaegr.
Bryum pseudotriquetrum (Hedw.) Gaertn. et al.
Bryum ruderale Crundw. & Nyh.
Bryum violaceum Crundw. & Nyh.
Pohlia bulbifera (Warnst.) Warnst.
Pohlia cruda (Hedw.) Lindb.
Pohlia nutans (Hedw.) Lindb.
Pohlia prolifera (Kindb. ex Breidl.) Lindb. ex Arnell
Pohlia wahlenbergii (Web. & Mohr) Andrews

Family Mniaceae

Cyrtomnium hymenophylloides (Hüb.) Nyh. ex T. Kop.
Mnium ambiguum H. Müll.
Mnium marginatum (With.) Brid. ex P. Beauv.
Mnium spinulosum Bruch & Schimp. in B.S.G.
Mnium thomsonii Schimp.
Plagiomnium ciliare (C. Müll) T. Kop.
Plagiomnium cuspidatum (Hedw.) T. Kop.
Plagiomnium ellipticum (Brid.) T. Kop.
Plagiomnium medium (Bruch & Schimp. in B.S.G.) T. Kop var. *medium*
Plagiomnium rostratum (Schrad.) T. Kop.
Pseudobryum cinclidioides (Hüb.) T. Kop.
Rhizomnium appalachianum T. Kop.
Rhizomnium magnifolium (Horik.) T. Kop.
Rhizomnium pseudopunctatum (Bruch & Schimp.) T. Kop.
Rhizomnium punctatum (Hedw.) T. Kop.

Order Hypnales

Family Amblystegiaceae

Amblystegium serpens (Hedw.) Schimp. in B.S.G. var. *juratzkanum*
Amblystegium serpens (Hedw.) Schimp. in B.S.G. var. *serpens*
Amblystegium varium (Hedw.) Lindb.
Calliergonella cuspidata (Hedw.) Loeske
Hygroamblystegium luridum (Hedw.) Jenn.
Hygroamblystegium fluviatile (Hedw.) Loeske
Hygroamblystegium tenax (Hedw.) Jenn. var. *tenax*
Leptodictyum humile (P. Beauv.) Ochyra
Leptodictyum riparium (Hedw.) Warnst.

Family Cratoneuraceae

Cratoneuron filicinum (Hedw.) Spruce

Family Helodiaceae

Helodium blandowii (Web. & Mohr) Warnst. var. *blandowii*

Family Hylocomiaceae

Hylocomiastrum pyrenaicum (Spruce) Fleisch. in Broth.
Hylocomium splendens (Hedw.) Schimp. in B.S.G.
Pleurozium schreberi (Brid.) Mitt.
Rhytidiadelphus squarrosus (Hedw.) Warnst.
Rhytidiadelphus triquetrus (Hedw.) Warnst.

Family Leskeaceae

- Leskea gracilescens* Hedw.
Leskea polycarpa Hedw.
Leskeella nervosa (Brid.) Loeske
Lindbergia brachyptera (Mitt.) Kindb.
Pseudoleskeella sibirica (Arnell) P. Wils. & Norris

Family Pterigynandraceae

- Heterocladium dimorphum* (Brid.) Schimp. in B.S.G.
Heterocladium macounii Best
Myurella julacea Schwaegr.) Schimp. in B.S.G.
Myurella sibirica (C. Müll.) Reim
Myurella anomalous form
Pterigynandrum filiforme Hedw.

Family Thuidiaceae

- Abietinella abietina* (Hedw.) Fleisch.
Thuidium delicatulum (Hedw.) Schimp. in B.S.G.
Thuidium philibertii Limpr.
Thuidium recognitum (Hedw.) Lindb.

Family Campyliaceae

- Calliergon cordifolium* (Hedw.) Kindb.
Calliergon giganteum (Schimp.) Kindb.
Calliergon stramineum (Brid.) Kindb.
Campylium chrysophyllum (Brid.) J. Lange
Campylium hispidulum (Brid.) Mitt.
Campylium polygamum (Schimp. in B.S.G.) C. Jens.
Campylium radicale (P. Beauv.) Grout
Campylium stellatum (Hedw.) C. Jens. var. *stellatum*
Campylium stellatum var. *protensum*
Drepanocladus aduncus (Hedw.) Warnst. var. *kneiffii*
Drepanocladus aduncus var. *aduncus*
Hygrohypnum molle (Hedw.) Loeske
Hygrohypnum ochraceum (Turn. ex Wils.) Loeske
Limprichtia cossonii (Schimp.) Aongstr. in Hartm.
Sanionia uncinata (Hedw.) Loeske var. *uncinata*
Tomentypnum falcifolium (Ren. ex Nichols) Tuom. in Ahti & Fagers.
Warnstorfia fluitans (Hedw.) Loeske var. *fluitans*

Family Brachytheciaceae

- Brachythecium acuminatum* (Hedw.) Aust.
Brachythecium oedipodium (Mitt.) Jaeg.
Brachythecium oxycladon (Brid.) Jaeg.
Brachythecium plumosum (Hedw.) Schimp. in B.S.G.
Brachythecium populeum (Hedw.) Schimp. in B.S.G.
Brachythecium reflexum (Starke in Web. & Mohr) Schimp. in B.S.G. var. *reflexum*
Brachythecium rivulare Schimp. in B.S.G.
Brachythecium rutabulum (Hedw.) Schimp. in B.S.G.
Brachythecium salebrosum (Web. & Mohr) Schimp. in B.S.G. var. *salebrosum*
Brachythecium turgidum (Hartm.) Kindb.
Brachythecium velutinum (Hedw.) Schimp. in B.S.G. var. *velutinum*
Bryhnia graminicolor (Brid.) Grout
Bryhnia novae-angliae (Sull. & Lesq. in Sull.) Grout
Eurhynchium hians (Hedw.) Sande Lac.
Eurhynchium praelongum (Hedw.) Schimp. in B.S.G.
Eurhynchium pulchellum (Hedw.) Jenn. var. *pulchellum*
Platyhypnidium riparioides (Hedw.) Dix.
Steerecleus serrulatus (Hedw.) Robins.

Family Fabroniaceae

Fabronia ciliaris (Brid.) Brid. var. *ciliaris*

Family Plagiotheciaceae

Plagiothecium cavifolium (Brid.) Iwats.

Plagiothecium denticulatum (Hedw.) Schimp. in B.S.G.

Plagiothecium laetum Schimp. in B.S.G.

Family Fontinalaceae

Dichelyma capillaceum (With.) Myr.

Dichelyma pallescens Schimp. in B.S.G.

Fontinalis antipyretica Hedw. var. *antipyretica*

Fontinalis antipyretica Hedw. var. *gigantea* (Sull.) Sull.

Fontinalis dalecarlica Schimp. in B.S.G.

Fontinalis flaccida Ren. & Card.

Fontinalis hypnoides var. *duriaei* (Schimp.) Husn.

Fontinalis missourica Card.

Fontinalis neomexicana Sull. & Lesq.

Fontinalis novae-angliae Sull. var. *novae-angliae*

Fontinalis sullivantii Lindb.

Family Climaciaceae

Climacium americanum Brid.

Climacium dendroides (Hedw.) Web. & Mohr.

Family Hypnaceae

Callicladium haldanianum (Grev.) Crum

Ctenidium molluscum (Hedw.) Mitt.

Herzogiella turfacea (Lindb.) Iwats.

Homomallium adnatum (Hedw.) Broth.

Hypnum cupressiforme var. *resupinatum* (Tayl.) Schimp. In Spruce

Hypnum curvifolium Hedw.

Hypnum fertile Sendtn.

Hypnum lindbergii Mitt.

Hypnum pallescens (Hedw.) P. Beauv. var. *protuberans* (Brid.) Aust.

Hypnum pallescens (Hedw.) P. Beauv. var. *pallescens*

Hypnum pratense (Rabenh.) W. Koch ex Spruce

Isopterygiopsis pulchella (Hedw.) Iwats.

Platydictya confervoides (Brid.) Crum

Platydictya subtilis (Hedw.) Crum

Platygyrium repens (Brid.) Schimp. in B.S.G.

Pseudotaxiphyllum distichaceum (Mitt.) Iwats.

Pseudotaxiphyllum elegans (Brid.) Iwats.

Ptilium crista-castrensis (Hedw.) De Not.

Pylaisiella polyantha (Hedw.) Grout

Pylaisiella selwynii (Kindb.) Crum *et al.*

Taxiphyllum deplanatum (Bruch & Schimp. ex Sull.) Fleisch.

Family Sematophyllaceae

Brotherella recurvans (Michx.) Fleisch.

Family Leucodontaceae

Leucodon brachypus S.E. Bridel var. *andrewsianus*

Family Neckeraceae

Homalia trichomanoides (Hedw.) Schimp. in B.S.G.

Neckera pennata Hedw.

Family Anomodontaceae

Anomodon tristis (Ces. in De Not.) Kindb.

Anomodon attenuatus (Hedw.) Hüb.

Anomodon minor (Hedw.) Fürnr.

Anomodon rostratus (Hedw.) Schimp.

Anomodon rugelii (C. Müll.) Keissl.

Phylum MARCHANTIOPHYTA

Class Marchantiopsida

Order Marchantiales

Family Conocephalaceae

Conocephalum conicum (L.) Lindb.

Family Marchantiaceae

Marchantia polymorpha L.

Preissia quadrata (Scop.) Nees

Class Jungermanniopsida

Order Metzgeriales

Family Blasiaceae

Blasia pusilla L.

Family Pelliaceae

Pellia epiphylla (L.) Corda

Pellia megaspora Schust.

Pellia neesiana (Gott.) Limpr.

Family Pallaviciniaceae

Moerckia hibernica (Hook.) Gott.

Pallavicinia lyellii (Hook.) Carruth.

Family Aneuraceae

Riccardia multifida (L.) S. Gray var. *multifida*

Family Metzgeriaceae

Metzgeria conjugata Lindb.

Metzgeria furcata (L.) Dum. var. *furcata*

Metzgeria furcata (L.) Dum. var. *ulvula* Nees

Order Jungermanniales

Family Ptilidiaceae

Ptilidium ciliare (L.) Hampe

Ptilidium pulcherrimum (G. Web.) Hampe

Family Trichocoleaceae

Trichocolea tomentella (Ehrh.) Dum.

Family Pseudolepicoleaceae

Blepharostoma trichophyllum (L.) Dum. subsp. *trichophyllum*

Family Geocalyceae

Chiloscyphus pallescens (Ehrh. Ex Hoffm.) Dum. var. *pallescens*

Chiloscyphus pallescens (Ehrh. Ex Hoffm.) Dum. var. *fragilis* (Roth) K. Müll.

Chiloscyphus polyanthos (Schrad.) Nees var. *polyanthos*

Chiloscyphus polyanthos (Schrad.) Nees var. *rivularis*

Geocalyx graveolens (Schrad.) Nees

Lophocolea heterophylla (Schrad.) Dum.

Lophocolea minor Nees.

Family Plagiochilaceae

Plagiochila porelloides (Torrey ex Nees) Lindenb.

Family Calypogeiaceae

Calypogeia trichomanis (L.) Corda

Family Lepidoziaceae

Bazzania trilobata (L.) S. Gray var. *trilobata*

Lepidozia reptans (L.) Dum.

Family Cephaloziaceae

Cephalozia bicuspidata (L.) Dum. Ssp. *Bicuspidata*

Cephalozia connivens (Dicks.) Lindb. var. *connivens*

Cephalozia loitlesbergeri Shiffn.
Cephalozia macounii (Aust.) Aust.
Cephalozia pleniceps (Aust.) Lindb. var. *pleniceps*
Odontoschisma denudatum (Nees ex Mart.) Dum. var. *denudatum*

Family Cephaloziellaceae

Cephaloziella divaricata (Sm.) Schiffn. var. *divaricata*
Cephaloziella hampeana (Nees) Schiffn.
Cephaloziella rubella (Nees) Warnst.

Family Jungermanniaceae

Anastrophyllum helleranum (Nees) Schust.
Anastrophyllum michauxii (Web.) Buch ex Evans
Anastrophyllum minutum (Schreb.) Schust. var. *minutum*
Barbilophozia attenuata (Mart.) Loeske
Barbilophozia barbata (Schmid. ex Schreb.) Loeske
Barbilophozia floerkei (Web. et Mohr) Loeske var. *floerkei*
Barbilophozia hatcheri (Evans) Loeske
Barbilophozia kunzeana (Hüb.) Gams
Barbilophozia lycopodioides (Wallr.) Loeske
Jamesoniella autumnalis (DC.) Steph. var. *autumnalis*
Jungermannia crenuliformis Aust.
Jungermannia exsertifolia Steph. subsp. *cordifolia* (Dum.) Vana var. *cordifolia*
Jungermannia gracillima Sm.
Jungermannia leiantha Grolle
Jungermannia pumila With.
Lophozia incisa (Schrad.) Dum. var. *incisa*
Lophozia obtusa (Lindb.) Evans
Lophozia sudetica (Nees) Grolle
Lophozia ventricosa (Dicks.) Dum. var. *ventricosa*
Tritomaria exsectiformis (Breidl.) Loeske subsp. *exsectiformis*
Tritomaria quinquedentata (Huds.) Buch var. *quinquedentata*

Family Gymnomitriaceae

Marsupella emarginata (Ehrh.) Dum. subsp. *emarginata*
Marsupella emarginata (Ehrh.) Dum. subsp. *emarginata* var. *emarginata*

Family Scapaniaceae

Scapania curta (Mart.) Dum. var. *curta*
Scapania cuspiduligera (Nees) K. Müll. var. *cuspiduligera*
Scapania irrigua (Nees) Gott. et al. subsp. *irrigua*
Scapania mucronata Buch subsp. *mucronata*
Scapania nemorosa (L.) Dum.
Scapania subalpina (Nees) Dum.
Scapania umbrosa (Schrad.) Dum.
Scapania undulata (L.) var. *undulata*

Family Porellaceae

Porella pinnata L.
Porella platyphylla (L.) Pfeiff.
Porella platyphylloidea (Schwein.) Lindb.

Family Jubulaceae

Frullania bolanderi Aust.
Frullania brittoniae Evans
Frullania eboracensis Gott.
Frullania inflata Gott.
Frullania oakesiana Aust.
Frullania selwyniana Pears.
Frullania tamarisci (L.) Dum. subsp. *asagrayana* (Mont.) Hatt.

Family Lejeuneaceae

Cololejeunea biddlecomiae (Aust.) Evans

Lejeunea cavifolia (Ehrh.) Lindb. emend. Buch
Lejeunea lamacerina (Steph.) Schiffn. subsp. *gemminata* Schust.

Family Radulaceae

Radula complanata (L.) Dum.
Radula obconica Sull.

Phylum ANTHOCEROTOPHYTA

Class Anthocerotopsida

Order Anthocerotales

Family Anthocerotaceae

Phaeoceros laevis (L.) Prosk. subsp. *laevis*

THE VASCULAR PLANTS

The vascular plant flora (the phyla Lycopodiophyta, Equisetophyta, Polypodiophyta, Pinophyta, and Magnoliophyta) is based initially upon the list by Wells and Thompson (1976), but has been extensively revised. Nomenclature has been updated. We have conformed to nomenclature used in the published volumes of The Flora of North America with some updating based, usually, on more recent phylogenetic studies. A number of familiar species have been renamed and higher-level taxa rearranged (e.g., *Lycopodium* divided into several genera; *Smilacina* folded into *Maianthemum*, *Aster* reassigned to genera *Eurybia*, *Doellingeria*, *Symphyotrichum*) on the basis of new understandings of evolutionary relationships. While initially confusing, these new assignments are being widely adopted. I have tried to make note of some of the generic changes following current species names. The current listing has been checked against the Taxonomic Name Resolution Service (tnrs.iplantcollaborative.org), whose taxonomy is, in turn largely derived from the Tropicos data-base at Missouri Botanical Garden, widely considered to be the largest and most up-to-date plant taxonomy data-base.

Several taxa listed by Wells and Thompson have been dropped because they are no longer recognized, because specimens have since been otherwise assigned, or because the listing is grossly inconsistent with the general range of the species (Voss 1972, 1985, 1996), suggesting misidentification. The presence of several other species on Huron Mountain Club lands is highly questionable, either because documentation is lacking and ranges in Voss (1972, 1985, 1996) do not include Marquette or, sometimes, neighboring counties. Wells and Thompson records are sometimes for areas near but not on Club lands. The following taxa are judged to belong in this category, and have been dropped from the current list: *Dryopteris filix-mas*, *Dryopteris filix-mas x marginalis*, *Gentiana linearis*, *Pinguicula vulgaris*, *Utricularia resupinata*, *Carex atherodes*, *Carex michauxiana*, and *Trillium grandiflorum* (Dr. William Manierre, personal communications).

About 90 species have been added to the Wells and Thompson list, the largest proportion of these through the efforts of Dr. William Manierre, both in direct observation and in compiling floristic records from other observers (personal communications). Several adventives have been added more recently.

Common names are given in parentheses following technical names. We have made no effort to list all common names, nor have we followed the practice of creating common names by translation of specific epithet; where no true common name exists, we use only generic common name.

Currently, we list 835 recognized taxa. Of these, thirteen are distinct from other members of the flora only at sub-specific or varietal level. Twelve are hybrids. Eight are species which may not be fully naturalized (i.e., exist only as planted specimens or their vegetative off-shoots). Thus, the current count for recognized vascular species, native or naturalized on Huron Mt. Club lands is 802. Of these, 101 are recognized as non-indigenous, but naturalized (mostly, but not exclusively, in disturbed habitats). There may well be rarities yet to be discovered, and additional non-indigenous species will undoubtedly become naturalized. However, we regard this listing as an unusually complete flora for an area of this size; the vascular flora of the Huron Mt. Club may be confidently taken as being very close to 800 species.

We use the following symbols, placed prior to species names, to indicate particular status:

§ = sterile hybrid

* = not in Wells and Thompson, documented subsequently

† = non-indigenous but assumed to be naturalized

‡ = non-indigenous, and possibly present only as planted specimens

Phylum LYCOPODIOPHYTA

Class Lycopodiopsida

Order Lycopodiales

Family Lycopodiaceae

- Diphasiastrum complanatum* (L.) Holub (ground-cedar)
- Diphasiastrum digitatum* (Dill.) Holub (ground-cedar)
- Diphasiastrum tristachyum* (Pursh) Holub (ground-cedar)
- Huperzia lucidula* (Michx.) Trevis. (shining club-moss)
- Lycopodiella inundata* (L.) Holub (bog club-moss)
- Lycopodium annotinum* L. (bristly club-moss)
- Lycopodium clavatum* L. (club-moss)
- Lycopodium obscurum* L. (ground-pine)

Class Isoetopsida

Order Selaginellales

Family Selaginellaceae

- **Selaginella apoda* (L.) Spring (spike-moss)
- Selaginella rupestris* (L.) Spring (rock spike-moss)

Order Isoetales

Family Isoetaceae

- Isoetes echinospora* Durieu (quillwort)
- Isoetes lacustris* L. (quillwort)

Phylum EQUISETOPHYTA

Class Equisetopsida

Order Equisetales

Family Equisetaceae

- Equisetum arvense* L. (horsetail)
- Equisetum fluviatile* L. (horsetail)
- Equisetum hyemale* L. (common scouring-rush)
- Equisetum palustre* L. (horsetail)
- Equisetum pratense* Ehrh. (horsetail)
- Equisetum scirpoides* Michx. (dwarf scouring-rush)
- Equisetum sylvaticum* L. (horsetail)
- Equisetum x ferrissii* Clute (horsetail)
- Equisetum x nelsonii* (A.A. Eaton) J.H. Schaffn. (horsetail)

Phylum POLYPODIOPHYTA

Class Polypodiopsida

Order Ophioglossales

Family Ophioglossaceae

- Botrychium dissectum* Spreng. (grapefern)
- Botrychium lanceolatum* ssp *angustisegmentum* (Pease & A.H. Moore) R.T. Clausen (grapefern)
- Botrychium lunaria* (L.) Sw. (moonwort)
- Botrychium matricariifolium* (Döll) A. Braun ex W.D.J. Koch (moonwort)
- Botrychium minganense* Vict. (moonwort)
- Botrychium multifidum* (S.G. Gmel.) Rupr. (grapefern)
- Botrychium simplex* E. Hitch. (moonwort)
- Botrychium virginianum* (L.) Sw. (rattlesnake fern)

Ophioglossum vulgatum L. (adder's-tongue fern)

Order Polypodiales

Family Osmundaceae

Osmunda claytoniana L. (interrupted fern)

Osmunda regalis L. (royal fern)

Osmundastrum cinnamomeum (L.) C. Presl (cinnamon fern)

Family Pteridaceae

Adiantum pedatum L. (maidenhair fern)

**Cryptogramma stelleri* (S.G. Gmelin) Prantl (cliff-brake)

Family Dennstaedtiaceae

Pteridium aquilinum (L.) Kuhn. (bracken)

Family Thelypteridaceae

Phegopteris connectilis (Michx.) Watt (northern beech-fern)

Phegopteris hexagonoptera (Michx.) Fée (broad beech-fern)

Thelypteris palustris (A. Gray) Schott (marsh fern)

Family Aspleniaceae

Asplenium trichomanes L. (maidenhair spleenwort)

Family Dryopteridaceae

Athyrium filix-femina (L.) Roth. (lady fern)

Athyrium filix-femina var. *angustum* (Willd.) R.T. Clausen (northern lady fern)

**Cystopteris bulbifera* (L.) Bernh. (bulblet fern)

Cystopteris fragilis (L.) Bernh. (fragile fern)

**Cystopteris laurentiana* (Weath.) Blasdell (*pro hybr.*) (fragile fern)

Deparia acrostichoides (Sw.) M. Kato (silvery spleenwort)

Dryopteris carthusiana (Vill.) H. P. Fuchs (wood-fern)

Dryopteris cristata (L.) A. Gray (wood-fern)

§*Dryopteris cristata x intermedia* (wood-fern)

§*Dryopteris cristata x marginalis* (wood-fern)

Dryopteris expansa (C. Presl) Fraser-Jenk. & Jermy (wood-fern)

§*Dryopteris expansa x marginalis* (wood-fern)

Dryopteris fragrans (L.) Schott (fragrant wood-fern)

Dryopteris intermedia (Muhl. ex Willd.) A. Gray (evergreen wood-fern)

§*Dryopteris intermedia x carthusiana* (wood-fern)

§*Dryopteris intermedia x marginalis* (wood-fern)

Dryopteris marginalis (L.) A. Gray (marginal wood-fern)

Gymnocarpium dryopteris (L.) Newman (oak-fern)

Metteuccia struthiopteris (L.) Tod. (ostrich fern)

Onoclea sensibilis L. (sensitive fern)

Polystichum braunii (Spencer) Fée (braun's holly fern)

Woodsia ilvensis (L.) R. Br. (rusty woodsia)

Woodsia oregana D.C. Eaton (woodsia)

§*Woodsia x abbae* Butters (woodsia)

Family Polypodiaceae

Polypodium virginianum L. (polypody)

Phylum PINOPHYTA

Class Pinopsida

Order Pinales

Family Pinaceae

Abies balsamea (L.) Mill. (balsam fir)

Larix laricina (DuRoi) K. Koch. (tamarack)

*†*Picea abies* (L.) H. Karst. (Norway spruce)

Picea glauca (Moench) Voss (white spruce)

Picea mariana (Mill.) Britton, Sterns & Poggenb. (black spruce)
Pinus banksiana Lamb. (jack pine)
Pinus resinosa Aiton (red pine)
Pinus strobus L. (eastern white pine)
Tsuga canadensis (L.) Carrière (eastern hemlock)

Family Cupressaceae

Juniperus communis var. *depressa* (Steven) Boiss. (ground juniper)
Juniperus horizontalis Moench (creeping juniper)
Thuja occidentalis L. (northern white cedar)

Order Taxales

Family Taxaceae

Taxus canadensis Marshall (american yew)

Phylum MAGNOLIOPHYTA

Class Magnoliopsida

Subclass Magnoliidae

Order Nymphaeales

Family Nymphaeaceae

Nuphar lutea ssp. *pumila* (Timm) E.O. Beal (small-leaved spatterdock)
Nuphar lutea ssp. *variegata* (Durand) E.O. Beal (bullhead-lily, variegated pond-lily)
Nymphaea odorata Aiton (fragrant water-lily)
Nymphaea odorata ssp. *tuberosa* (Paine) Wiersoma & Hellquist (tuberous water-lily)

Order Ranunculales

Family Ranunculaceae

Actaea pachypoda Elliott (white baneberry)
Actaea rubra (Aiton) Willd. (red baneberry)
Anemone canadensis L. (canada anemone)
Anemone quinquefolia L. var. *quinquefolia* (wood anemone)
Aquilegia canadensis L. (columbine)
Caltha palustris L. (cowslip, marsh-marigold)
**Clematis occidentalis* (Hornem.) DC. (purple clematis)
Clematis virginiana L. (virgin's-bower)
Coptis trifolia (L.) Salisb. (goldthread)
Hepatica nobilis var. *obtusata* (Pursh) Steyerl. (hepatica)
Ranunculus abortivus L. (small-flowered crowfoot)
†*Ranunculus acris* L. (tall buttercup)
Ranunculus aquatilis L. (water-crowfoot)
Ranunculus aquatilis L. var. *diffusus* With. (water-crowfoot)
Ranunculus fascicularis Muhl. ex Bigelow (early buttercup)
Ranunculus flammula L. (spearwort)
**Ranunculus gmelinii* DC. (buttercup)
Ranunculus hispidus Michx. var. *caricetorum* (Greene) T. Duncan (swamp buttercup)
Ranunculus pensylvanicus L.f. (crowfoot)
Ranunculus recurvatus Poir. var. *recurvatus* (crowfoot)
Thalictrum dasycarpum Fisch. & Avé-Lall. (purple meadow-rue)
Thalictrum pubescens Pursh (tall meadow-rue)

Family Berberidaceae

*†*Berberis thunbergii* DC. (Japanese barberry)
†*Berberis vulgaris* L. (common barberry)
Caulophyllum thalictroides (L.) Michx. (blue cohosh)

Order Papaverales

Family Papaveraceae

Sanguinaria canadensis L. (bloodroot)

Family Fumariaceae

Corydalis sempervirens (L.) Pers. (pale corydalis)

Dicentra cucullaria (L.) Bernh. (dutchman's breeches)

Subclass Hamamelidae

Order Hamamelidales

Family Hamamelidaceae

Hamamelis virginiana L. (witch hazel)

Order Urticales

Family Ulmaceae

Ulmus americana L. (american elm)

Ulmus rubra Muhl. (slippery elm, red elm)

Family Cannabaceae

†*Humulus lupulus* L. (hops)

Family Moraceae

‡*Morus alba* L. (mulberry)

Family Urticaceae

Laportea canadensis (L.) Wedd. (wood nettle)

Pilea pumila (L.) A. Gray (clearweed)

†*Urtica dioica* L. (stinging nettle)

Order Juglandales

Family Juglandaceae

‡*Juglans cinerea* L. (butternut)

†*Juglans nigra* L. (black walnut)

Order Myricales

Family Myricaceae

Comptonia peregrina (L.) J.M. Coult. (sweet-fern)

Myrica gale L. (sweet gale)

Order Fagales

Family Fagaceae

Quercus ellipsoidalis E.J. Hill. (jack oak, northern pin oak)

Quercus rubra L. (northern red oak)

Family Betulaceae

Alnus serrulata (Aiton) Willd. (speckled alder)

Alnus viridis (Villars) de Candolle ssp. *crispa* Á. Löve & D. Löve (green alder)

Betula alleghaniensis Britton (yellow birch)

Betula glandulosa Michx. (dwarf birch)

Betula papyrifera Marshall (paper birch)

Betula pumila L. (swamp birch, bog birch)

Corylus cornuta Marshall (beaked hazelnut)

Ostrya virginiana (Mill.) K. Koch (hop-hornbeam, ironwood)

Subclass Caryophyllidae

Order Caryophyllales

Family Nyctaginaceae

Mirabilis albida (Walter) Heimerl (umbrella-wort)

Family Cactaceae

Opuntia fragilis (Nutt.) Haw. (little prickly pear)

Family Chenopodiaceae

- †*Chenopodium album* L. (lamb's quarters)
- Chenopodium simplex* (Torr.) Raf. (maple-leaved goosefoot)
- †*Corispermum hyssopifolium* L. (bugseed)

Family Portulacaceae

- Claytonia caroliniana* Michx. (spring beauty)

Family Caryophyllaceae

- Cerastium arvense* L. (field chickweed)
- Cerastium nutans* Raf. (mouse-ear chickweed)
- †*Cerastium vulgatum* L. (chickweed)
- *†*Dianthus armeria* L. (Deptford pink)
- Minuartia michauxii* (Fenzl) Farw. (rock sandwort)
- Sagina procumbens* L. (birdseye, low pearlwort)
- Silene antirrhina* L. (sleepy catchfly)
- †*Silene latifolia* Poir. (white campion)
- †*Silene noctiflora* L. (catchfly)
- †*Spergularia rubra* (L.) J. Presl & C. Presl. (sand spurry)
- Stellaria borealis* Bigelow var. *borealis* (chickweed)
- †*Stellaria graminea* L. (chickweed)
- †*Stellaria media* (L.) Vill. (common chickweed)

Order Polygonales

Family Polygonaceae

- Fallopia cilioidis* (Michx.) Holub (fringed bindweed)
- †*Fallopia convolvulus* (L.) Á. Löve (black bindweed)
- Persicaria amphibia*(L.) Gray (water smartweed)
- Persicaria amphibia* (L.) Gray var. *stipulacea* N. Coleman (water smartweed)
- Persicaria hydropiper* (L.) Spach (water-pepper)
- Persicaria lapathifolia* (L.) Gray (heart's ease, dock-leaved smartweed)
- Persicaria pennsylvanica* (L.) M. Gómez (knotweed)
- †*Persicaria maculosa* Gray (lady's-thumb)
- Persicaria punctata* (Elliott) Small (smartweed)
- Persicaria sagittata* (L.) H. Gross (tearthumb)
- Polygonella articulata* (L.) Meisn. (jointweed)
- †*Polygonum aviculare* L. (creeping knotweed)
- Polygonum douglasii* Greene (knotweed)
- †*Rumex acetosella* L. (sheep-sorrel)
- Rumex britannica* L. (water-dock)
- †*Rumex crispus* L. (curly dock)
- †*Rumex obtusifolius* L. (bitter dock)
- Rumex salicifolius* Weinm. (dock)

Subclass Dilleniidae

Order Theales

Family Clusiaceae

- Hypericum boreale* (Britton) E.P. Bicknell (St. John's-wort)
- Hypericum canadense* L. (St. John's-wort)
- Hypericum ellipticum* Hook. (St. John's-wort)
- Hypericum kalmianum* L. (St. John's-wort)
- Hypericum mutilum* L. (St. John's-wort)
- †*Hypericum perforatum* L. (St. John's-wort)
- Hypericum prolificum* L. (St. John's-wort)
- Triadenum fraseri* (Spach) Gleason (marsh St. John's-wort)

Order Malvales

Family Tiliaceae

Tilia americana L. (basswood, american linden)

Family Malvaceae

†*Malva moschata* L. (musk mallow)

Order Nepenthales

Family Sarraceniaceae

Sarracenia purpurea L. (pitcher-plant)

Family Droseraceae

Drosera anglica Huds. (sundew)

Drosera intermedia Hayne (sundew)

Drosera rotundifolia L. (sundew)

Order Violales

Family Cistaceae

Helianthemum canadense (L.) Michx. (frostweed)

Hudsonia tomentosa Nutt. (false heather)

Lechea intermedia (Britton & Hollick) Legg. (pinweed)

Family Violaceae

Viola adunca Sm. (violet)

†*Viola arvensis* Murray (pansy)

Viola blanda Willd. (large-leaved white violet)

Viola cucullata Aiton (marsh blue violet)

Viola labradorica Schrank (dog violet)

Viola lanceolata L. (violet)

Viola macloskeyi Lloyd var. *pallens* (Banks ex DC.) C.L. Hitchc. (white violet)

Viola nephrophylla Greene (bog violet)

Viola pubescens Aiton (yellow violet)

Viola renifolia A. Gray (violet)

**Viola selkirkii* Pursh ex Goldie (violet)

**Viola sororia* Willd. (violet)

Order Salicales

Family Salicaceae

*†*Populus nigra* (L.) var. *italica* Du Roi (Lombardy poplar)

Populus balsamifera L. (balsam poplar)

Populus deltoides W. Bartram ex Marshall (cottonwood)

Populus grandidentata Michx. (big-toothed aspen)

Populus tremuloides Michx. (quaking aspen)

Salix bebbiana Sarg. (Bebb's willow)

Salix discolor Muhl. (pussy-willow)

Salix eriocephala Michx. (diamond willow)

Salix exigua Nutt. forma *interior* (Rowlee) (willow)

Salix humilis Marshall (willow)

Salix myricoides Muhl. (willow)

Salix nigra Marshall (black willow)

Salix pedicellaris Pursh (willow)

**Salix pellita* (Andersson) Bebb (willow)

Salix petiolaris Sm. (willow)

Salix petiolaris var. *subsericea* Andersson (willow)

Salix pyrifolia Andersson (willow)

Salix serissima (L.H. Bailey) Fernald (willow)

Order Capparales

Family Brassicaceae

Arabis divaricarpa A. Nelson (rockcress)

A Armoracia lacustris A. Gray (lake-cress)

†*Barbarea vulgaris* W.T. Aiton (yellow rocket, winter cress)
Bechera holboellii (Hornem.) Á. Löve & D. Löve (rockcress) [formerly *Arabis*]
 †*Berteroa incana* (L.) DC. (hoary alyssum)
 †*Brassica junca* (L.) Czern. (field mustard)
Cakile edentula (Bigelow) Hook (sea rocket)
 †**Capsella bursa-pastoris* (L.) Medik. (shepherd's purse)
Cardamine diphylla (Michx.) Alph. Wood (toothwort)
Cardamine parviflora L. (bittercress)
Cardamine pennsylvanica Muhl. ex Willd. (Pennsylvania bittercress)
Cardamine pratensis L. (cuckoo-flower)
 **Draba arabisans* Michx. ()
 †*Erysimum cheiranthoides* L. (wormseed-mustard)
 †*Lepidium densiflorum* Schrad. (peppergrass)
 †*Rorripa aquatica* (Eaton) E.J. Palmer & Steyer. (yellow rocket, winter cress)
Rorippa palustris (L.) Besser (yellow cress)
 †*Sisymbrium altissimum* L. (hedge-mustard)

Order Ericales

Family Ericaceae

Andromeda glaucophylla Link (bog rosemary)
Arctostaphylos uva-ursi (L.) Spreng. (bearberry)
 *‡*Calluna vulgaris* (L.) Hull (heather)
Chamaedaphne calyculata (L.) Moench (leatherleaf)
Epigaea repens L. (trailing arbutus)
Gaultheria hispidula (L.) Muhl. ex Bigelow (creeping-snowberry)
Gaultheria procumbens L. (wintergreen, checkerberry)
Gaylussacia baccata (Wangenh.) K.Koch. (black huckleberry)
Kalmia polifolia Wangenh. (bog-laurel)
Ledum groenlandicum Oeder (labrador tea)
Vaccinium angustifolium Aiton (lowbush blueberry)
Vaccinium macrocarpon Aiton (cranberry)
Vaccinium membranaceum Douglas ex Torr. (bilberry)
Vaccinium myrtilloides Michx. (blueberry)
Vaccinium ovalifolium Sm. (bilberry)
Vaccinium oxycoccos L. (cranberry)
Vaccinium pallidum Aiton (blueberry)

Family Pyrolaceae

Chimaphila umbellata (L.) Nutt. (prince's pine)
Moneses uniflora (L.) A. Gray (one-flowered shinleaf)
Orthilia secunda (L.) House (shinleaf) [formerly *Pyrola*]
Pyrola chlorantha Sw. (shinleaf)
Pyrola elliptica Nutt. (shinleaf)
Pyrola rotundifolia L. (shinleaf)

Family Monotropaceae

Monotropa hypopitys L. (pinesap)
Monotropa uniflora L. (indian pipe)
Pterospora andromedea Nutt. (pine-drops)

Order Primulales

Family Primulaceae

**Lysimachia ciliata* L. (fringed loosestrife)
Lysimachia terrestris (L.) Britton, Sterns & Poggenb. (swamp candle)
Lysimachia thysiflora L. (swamp loosestrife)
Trientalis borealis Raf. (star-flower)

Subclass Rosidae

Order Rosales

Family Saxifragaceae

- Chrysosplenium americanum* Schwein. ex Hook. (golden saxifrage)
- Mitella nuda* L. (miterwort)
- *†*Philadelphus* sp. L. (mock-orange)
- **Ribes americanum* Mill. (wild black currant)
- Ribes cynosbati* L. (dogberry, wild gooseberry)
- Ribes glandulosum* Grauer (skunk currant)
- Ribes hirtellum* Michx. (wild gooseberry)
- Ribes hudsonianum* Richardson (black currant)
- Ribes lacustre* (Pers.) Poir. (spiny swamp-currant)
- Ribes oxyacanthoides* L. (gooseberry)
- **Ribes triste* Pall. (red currant)
- ‡*Ribes uva-crispa* L. (garden gooseberry)
- Saxifraga virginiana* Michx. (early saxifrage)

Family Rosaceae

- Agrimonia gryposepala* Wallr. (common agrimony)
- Amelanchier arborea* (F. Michx.) Fernald (serviceberry, shadbush)
- Amelanchier bartramiana* (Tausch) M. Roem. (serviceberry, shadbush)
- **Amelanchier interior* E. L. Nielsen (serviceberry, shadbush)
- Amelanchier laevis* Wiegand (serviceberry, shadbush)
- Amelanchier sanguinea* (Pursh) DC. (serviceberry, shadbush)
- Amelanchier spicata* (Lam.) K. Koch (serviceberry, shadbush)
- Aronia melanocarpa* (Michx.) Elliott (black chokeberry)
- Aronia prunifolia* (Marsh.) Rehder (purple chokeberry)
- Crataegus flabellata* (Bosc ex Spach) K. Koch (hawthorn)
- Fragaria vesca* L. (wild strawberry)
- Fragaria virginiana* Duchesne (wild strawberry)
- Geum aleppicum* Jacq. (yellow avens)
- Geum canadense* Jacq. (white avens)
- Geum rivale* L. (water avens, purple avens)
- Physocarpus opulifolius* (L.) Maxim. (ninebark)
- †*Potentilla argentea* L. (silvery cinquefoil)
- Potentilla arguta* Pursh (tall cinquefoil)
- Potentilla canadensis* L. (creeping cinquefoil)
- Potentilla fruticosa* L. (shrubby cinquefoil)
- Potentilla norvegica* L. (cinquefoil)
- Potentilla palustris* (L.) Scop. (marsh cinquefoil)
- Potentilla simplex* Michx. (cinquefoil)
- Potentilla tridentata* Aiton (three-toothed cinquefoil)
- Prunus nigra* Aiton (canada plum)
- Prunus pensylvanica* L.f. (pin cherry)
- Prunus pumila* L. (sand cherry)
- Prunus serotina* Ehrh. (wild black cherry)
- Prunus virginiana* L. (choke cherry)
- Rosa acicularis* Lindl. (wild rose)
- Rosa blanda* Aiton (wild rose)
- Rosa carolina* L. (pasture rose)
- Rosa palustris* Marsh. (swamp rose)
- †*Rosa rugosa* Thunb. (wild rose)
- †*Rosa spinosissima* L. (scotch rose)
- Rosa virginiana* Mill. (wild rose)
- Rubus allegheniensis* Porter (blackberry)
- Rubus canadensis* L. (blackberry)
- Rubus flagellaris* Willd. (blackberry)

**Rubus hispidus* L. (dewberry)
Rubus idaeus L. subsp. *melanolasius* (Dieck) R.J. Davis (red raspberry)
 **Rubus laciniatus* Willd. (blackberry)
Rubus parviflorus Nutt. (thimbleberry)
Rubus pubescens Raf. (raspberry)
Sorbus americana Marshall (mountain-ash)
 ‡*Sorbus aucuparia* L. (mountain-ash)
Sorbus decora (Sarg.) C.K. Schneid. (mountain-ash)
Spiraea alba Du Roi (meadowsweet)
Spiraea tomentosa L. (hardhack)
Waldsteinia fragarioides (Michx.) Tratt. (barren strawberry)

Order Fabales

Family Fabaceae

Amorpha fruticosa L. (false indigo)
Amphicarpaea bracteata (L.) Fernald (hog-peanut)
 ‡*Caragana arborescens* Lam. (pea-tree)
Lathyrus maritimus (L.) Fr. (beach pea)
Lathyrus ochroleucus Hook. (white pea, pale vetchling)
 †*Lupinus polyphyllus* Lindl. (giant lupine)
 †*Melilotus albus* Medik. (white sweet clover)
 †*Melilotus officinalis* (L.) Lam. (yellow sweet clover)
 *‡*Robinia pseudo-acacia* L. (black locust)
 †*Trifolium aureum* Pollich (hop-clover)
 †*Trifolium hybridum* L. (alsike clover)
 †*Trifolium repens* L. (white clover)
Vicia americana Muhl. ex Willd. (vetch)
 †*Vicia sepium* L. (vetch, hedge vetch)
 †*Vicia villosa* Roth (hairy vetch)

Order Haloragales

Family Haloragaceae

Myriophyllum alterniflorum DC. (water-milfoil)
Myriophyllum heterophyllum Michx. (water-milfoil)
Myriophyllum sibiricum Kom. (water-milfoil)
Myriophyllum tenellum Bigelow (water-milfoil)
 *†*Myriophyllum verticillatum* L. (water-milfoil)

Order Myrtales

Family Thymelaeaceae

Dirca palustris L. (leatherwood)

Family Onagraceae

Circaea alpina L. (enchanter's nightshade)
Circaea lutetiana L. var. *canadensis* L. (enchanter's nightshade)
Epilobium angustifolium L. (fireweed)
Epilobium ciliatum Raf. ssp. *ciliatum* (willow-herb)
 **Epilobium coloratum* Biehler (willow-herb)
Epilobium glandulosum Lehm. (willow-herb)
Epilobium palustre L. (willow-herb)
Ludwigia palustris (L.) Elliott (water purslane)
Oenothera biennis L. (evening primrose)
Oenothera biennis L. var. *canescens* Torr. & A. Gray (evening primrose)
Oenothera parviflora L. (evening primrose)
Oenothera perennis L. (little sundrops)

Order Cornales

Family Cornaceae

- Cornus alternifolia* L.f. (alternate-leaved dogwood)
- Cornus canadensis* L. (bunchberry)
- Cornus racemosa* Lam. (gray dogwood)
- Cornus rugosa* Lam. (round-leaved dogwood)
- Cornus sericea* L. (red-osier dogwood)

Order Santalales

Family Santalaceae

- Comandra richardsiana* Fernald (false toadflax)

Family Loranthaceae

- Arceuthobium pusillum* Peck (dwarf mistletoe)

Order Celastrales

Family Celastraceae

- **Celastrus scandens* L. (bittersweet)
- †*Euonymus europaeus* L. (spindle tree)

Family Aquifoliaceae

- Ilex verticillata* (L.) A. Gray (winterberry)
- Nemopanthus mucronatus* (L.) Trel. (mountain-holly)

Order Rhamnales

Family Rhamnaceae

- Ceanothus herbaceus* Raf. (redroot, new jersey tea)
- Rhamnus alnifolia* L'Hér. (buckthorn)

Family Vitaceae

- Parthenocissus quinquefolia* (L.) Planch. (virginia creeper)
- Vitis riparia* Michx. (wild grape)

Order Polygalales

Family Polygalaceae

- Polygala paucifolia* Willd. (fringed polygala)
- Polygala polygama* Walter (bitter milkwort)

Order Sapindales

Family Aceraceae

- **Acer negundo* L. (box-elder)
- Acer pensylvanicum* L. (striped maple)
- Acer rubrum* L. (red maple)
- Acer saccharum* Marshall (sugar maple)
- Acer spicatum* Lam. (mountain maple)

Family Anacardiaceae

- Rhus glabra* L. (smooth sumac)
- Toxicodendron radicans* (L.) Kuntze (poison ivy)

Family Rutaceae

- Ptelea trifoliata* L. (hop-tree)

Order Geraniales

Family Oxalidaceae

- Oxalis acetosella* L. (wood-sorrel)

Family Geraniaceae

- Geranium bicknellii* Britton (geranium)
- Geranium rotundifolium* L. (geranium)

Family Balsaminaceae

- Impatiens capensis* Meerb. (touch-me-not, jewelweed)

Order Apiales

Family Araliaceae

- Aralia hispida* Vent. (bristly sarsaparilla)
- Aralia nudicaulis* L. (wild sarsaparilla)
- Aralia racemosa* L. (spikenard)
- Panax trifolium* L. (dwarf ginseng)

Family Apiaceae

- *†*Aegopodium podagraria* L. (goutweed)
- Cicuta bulbifera* L. (water-hemlock)
- †*Daucus carota* L. (queen anne's lace)
- Heracleum lanatum* Michx. (cow-parsnip)
- Osmorhiza chilensis* Hook. & Arn. (sweet cicely)
- Osmorhiza claytonii* (Michx.) C.B. Clarke (sweet cicely)
- Osmorhiza longistylis* (Torr.) DC. (sweet cicely)
- Sanicula marilandica* L. (black snakeroot)
- Sium suave* Walter (water-parsnip)

Subclass Asteridae

Order Gentianales

Family Gentianaceae

- Gentiana rubricaulis* Schwein. (gentian)
- Halenia deflexa* (Sm.) Griseb. (spurred gentian)
- Menyanthes trifoliata* L. (bog buckbean)

Family Apocynaceae

- Apocynum androsaemifolium* L. (dogbane)

Family Asclepiadaceae

- Asclepias exaltata* L. (poke-leaved milkweed)
- Asclepias incarnata* L. (swamp milkweed)
- Asclepias syriaca* L. (common milkweed)

Order Solanales

Family Convolvulaceae

- *†*Convolvulus arvensis* L. (field bindweed)

Family Solanaceae

- †*Solanum americanum* Mill. (bittersweet nightshade)
- †*Solanum nigrum* L. (black nightshade)

Order Lamiales

Family Boraginaceae

- †*Cynoglossum officinale* L. (hound's tongue)
- Mertensia paniculata* (Aiton) G. Don (northern bluebell)
- †*Myosotis arvensis* (L.) Hill (forget-me-not)
- Myosotis laxa* Lehm. (forget-me-not)

Family Verbenaceae

- Verbena hastata* L. (common vervain)
- Verbena urticifolia* L. (white verbena)

Family Lamiaceae

- †*Galeopsis tetrahit* L. (hemp-nettle)
- Lycopus americanus* Muhl. (water-horehound)
- Lycopus uniflorus* Michx. (bugleweed)
- †*Mentha arvensis* L. (field mint, corn mint)
- †*Nepeta cataria* L. (catnip)
- †*Prunella vulgaris* L. (self-heal, heal-all)
- †*Satureja vulgaris* (L.) Fritsch (wild basil)
- Scutellaria galericulata* L. (marsh skullcap)

Scutellaria lateriflora L. (mad-dog skullcap)
Scutellaria x churchilliana Fern. (churchill's skullcap)

Order Callitrichales

Family Hippuridaceae

Hippuris vulgaris L. (mare's tail)

Family Callitrichaceae

Callitriche palustris L. (water-starwort)

Order Plantaginales

Family Plantaginaceae

†*Plantago lanceolata* L. (english plantain)

†*Plantago major* L. (common plantain)

Plantago rugelii Decne. (american plantain)

Order Scrophulariales

Family Oleaceae

Fraxinus americana L. (white ash)

Fraxinus nigra Marshall (black ash)

Fraxinus pennsylvanica Marshall (green ash)

*†*Ligustrum vulgare* L. (privet)

Syringa vulgaris L. (common lilac)

Family Scrophulariaceae

Chelone glabra L. (white turtlehead)

Collinsia parviflora Douglas ex Lindl. (blue-eyed mary)

Gratiola neglecta Torr. (hedge hyssop)

Linaria vulgaris Mill. (butter and eggs)

Melampyrum lineare Desr. (cow-wheat)

Mimulus glabratus Kunth (monkey-flower)

Mimulus moschatus Douglas ex Lindl. (monkey-flower)

Mimulus ringens L. (monkey-flower)

Scrophularia lanceolata Pursh (early figwort)

†*Verbascum blattaria* L. (moth mullein)

†*Verbascum thapsus* L. (common mullein)

Veronica americana (Raf.) Schw. (brooklime, speedwell)

†*Veronica arvensis* L. (corn speedwell)

†*Veronica beccabunga* L. (brooklime)

†*Veronica chamaedrys* L. (speedwell)

†*Veronica officinalis* L. (speedwell)

Veronica peregrina L. (speedwell)

Veronica scutellata L. (speedwell)

†*Veronica serpyllifolia* L. (speedwell)

Family Orobanchaceae

Conopholis americana (L.) Wallr. (squawroot)

Family Lentibulariaceae

Utricularia cornuta Michx. (horned bladderwort)

**Utricularia gibba* L. (bladderwort)

Utricularia intermedia Hayne (bladderwort)

Utricularia vulgaris L. (bladderwort)

Order Campanulales

Family Campanulaceae

Campanula aparinoides Pursh (marsh bellflower)

Campanula rotundifolia L. (harebell)

Lobelia dortmanna L. (water lobelia)

Order Rubiales

Family Rubiaceae

- Galium aparine* L. (cleavers)
- Galium asprellum* Michx. (bedstraw)
- Galium tinctorium* L. (bedstraw)
- Galium trifidum* L. (bedstraw)
- Galium triflorum* Michx. (bedstraw)
- Mitchella repens* L. (partridge-berry)

Order Dipsacales

Family Caprifoliaceae

- Diervilla lonicera* Mill. (bush-honeysuckle)
- Linnaea borealis* L. (twin-flower)
- Lonicera canadensis* Bartram ex Marshall (fly honeysuckle)
- Lonicera dioica* L. (wild honeysuckle)
- Lonicera hirsuta* Eaton (hairy honeysuckle)
- †*Lonicera tatarica* L. (tartarian honeysuckle)
- Sambucus canadensis* L. (common elder)
- Sambucus racemosa* L. var. *pubens* (Michx.) Koehne (red-berried elder)
- Symphoricarpos albus* S.F. Blake (snowberry)
- **Viburnum acerifolium* L. (dockmackie)
- **Viburnum dentatum* (L.) var. *lucidum* Aiton. (arrow-wood)
- Viburnum lentago* L. (nannyberry)
- Viburnum nudum* L. var. *cassinoides* (L.) Torr. & A. Gray (withe-rod)
- Viburnum opulus* L. (highbush cranberry)

Family Valerianaceae

- *†*Valeriana officinalis* L. (garden heliotrope)

Order Asterales

Family Asteraceae

- †*Achillea millefolium* L. (common yarrow)
- Achillea ptarmica* L. (sneezeweed)
- Adenocaulon bicolor* Hook. (trail-plant)
- Ageratina altissima* var. *altissima* (L.) R.M. King & H. Rob. (white snakeroot)
- Ambrosia artemisiifolia* L. (common ragweed)
- †*Ambrosia psilostachya* DC. (western ragweed)
- Anaphalis margaritacea* (L.) Benth. & Hook. f. (pearly everlasting)
- Antennaria neglecta* Greene (pussy-toes)
- Antennaria plantaginifolia* (L.) Hook. (pussy-toes)
- †*Arctium minus* Schkuhr. (burdock)
- †*Artemisia absinthium* L. (wormwood)
- Artemisia campestris* L. ssp. *caudata* (Michx.) H.M. Hall & Clem. (wormwood)
- Artemisia campestris* L. (wormwood)
- Bidens beckii* Torr. ex Spreng. (water bur-marigold)
- Bidens cernua* L. (bur-marigold)
- Bidens frondosa* L. (devil's beggartick)
- †*Cirsium arvense* (L.) Scop. (canada thistle)
- Cirsium muticum* Michx. (swamp thistle)
- Cirsium palustre* (L.) Scop. (marsh thistle)
- †*Cirsium vulgare* (Savi) Ten. (bull thistle)
- Conyza canadensis* (L.) Cronquist (horseweed)
- Doellingeria umbellata* (Mill.) Nees (tall aster)
- Doellingeria umbellata* var. *pubens* (A. Gray) Britton (aster)
- Erechtites hieracifolia* (L.) Raf. ex DC. (fireweed)
- Erigeron annuus* (L.) Pers. (daisy fleabane)
- Erigeron philadelphicus* L. (daisy fleabane)

Erigeron strigosus Muhl. ex Willd. (fleabane)
Eupatorium perfoliatum L. (boneset)
Eurybia macrophylla (L.) Cass. (large-leaved aster)
Euthamia caroliniana (L.) Greene ex Porter & Britton (flat-topped goldenrod)
Euthamia graminifolia (L.) Nutt. (flat-topped goldenrod)
Eutrochium maculatum (L.) E.E. Lamont (joe-pye weed)
Gnaphalium uliginosum L. (cudweed)
Helianthus annuus L. (common sunflower)
Hieracium aurantiacum L. (orange hawkweed)
*†*Hieracium caespitosum* Dumort. (hawkweed)
Hieracium kalmii L. var. *kalmii* (hawkweed)
Hieracium piloselloides Vill. (yellow hawkweed)
Hieracium scabrum Michx. (hawkweed)
Hieracium umbellatum L. (hawkweed)
Lactuca biennis (Moench) Fernald (wild lettuce)
Lactuca canadensis L. (wild lettuce)
†*Leucanthemum vulgare* Lam. (ox-eye daisy)
†*Matricaria matricarioides* (Less.) Porter (pineapple-weed)
Packera aurea (L.) Á. Löve & D. Löve (golden ragwort)
**Packera indecora* (Greene) Á. Löve & D. Löve (groundsel)
Petasites frigidus (L.) Fr. (sweet coltsfoot)
Prenanthes alba L. (white lettuce)
Pseudognaphalium macounii (Greene) Kartesz (cudweed)
Rudbeckia hirta L. (black-eyed susan)
Solidago altissima ssp. *altissima* (Muhl. ex Willd.) Torr. & A. Gray (tall goldenrod)
Solidago bicolor L. (white goldenrod)
Solidago caesia L. (goldenrod)
Solidago canadensis L. (goldenrod)
Solidago flexicaulis L. (goldenrod)
Solidago gigantea Aiton (goldenrod)
Solidago hispida Muhl. ex Willd. (goldenrod)
Solidago juncea Aiton (goldenrod)
Solidago nemoralis Aiton (goldenrod)
**Solidago ptarmicoides* (Torr. & A. Gray) B. Boivin (goldenrod)
Solidago speciosa Nutt. (goldenrod)
Solidago uliginosa Nutt. (goldenrod)
**Symphotrichum boreale* (Torr. & A. Gray) Á. Löve & D. Löve (bog-aster)
Symphotrichum ciliolatum (Lindl.) Á. Löve & D. Löve (aster)
Symphotrichum cordifolium (L.) G.L. Nesom (aster)
Symphotrichum firmum (Nees) G.L. Nesom (aster)
Symphotrichum lanceolatum (Willd.) G.L. Nesom (aster)
Symphotrichum lateriflorum (L.) Á. Löve & D. Löve (calico aster)
**Symphotrichum pilosum* (Willd.) G.L. Nesom (aster)
Symphotrichum puniceum (L.) Á. Löve & D. Löve (aster)
†*Tanacetum vulgare* L. (common tansy)
†*Taraxacum officinale* F.H. Wigg. (common dandelion)
†*Tragopogon pratensis* L. (goat's-beard)

Class Liliopsida

Subclass Alismatidae

Order Alismatales

Family Alismataceae

Alisma plantago-aquatica L. (water-plantain)
Sagittaria cuneata E. Sheld. (wapato, arrowhead)
Sagittaria graminea Michx. (arrowhead)

Sagittaria latifolia Willd. (arrowhead)

Order Hydrocharitales

Family Hydrocharitaceae

Elodea canadensis Michx. (waterweed)

Vallisneria americana Michx. (eel-grass)

Order Najadales

Family Potamogetonaceae

Najas flexilis (Willd.) Rostk. & W.L.E. Schmidt (pondweed)

Najas gracillima (A. Braun ex Engelm.) Magnus (pondweed)

Potamogeton alpinus Balb. (pondweed)

Potamogeton amplifolius Tuck. (pondweed)

Potamogeton epihydrus Raf. (pondweed)

Potamogeton foliosus Raf. (pondweed)

Potamogeton friesii Rupr. (pondweed)

Potamogeton gramineus L. (pondweed)

Potamogeton illinoensis Morong (pondweed)

Potamogeton natans L. (pondweed)

Potamogeton oakesianus J. W. Robbins (pondweed)

Potamogeton perfoliatus L. (pondweed)

Potamogeton praelongus Wulfen (pondweed)

Potamogeton pusillus L. (pondweed)

Potamogeton pusillus ssp. *tenuissimus* (Mert. & W.D.J. Koch) R.R. Haynes & Hellq. (pondweed)

Potamogeton richardsonii (A. Benn.) Rydb. (pondweed)

Potamogeton robbinsii Oakes (pondweed)

Potamogeton spirillus Tuck. (pondweed)

Potamogeton strictifolius A. Benn. (pondweed)

Potamogeton zosteriformis Fernald (pondweed)

Stuckenia filiformis (Pers.) Börner (pondweed)

Stuckenia pectinata (L.) Börner (sago pondweed)

Subclass Commelinidae

Order Typhales

Family Sparganiaceae

Sparganium americanum Nutt. (bur-reed)

Sparganium androcladum (Engelm.) Morong (bur-reed)

Sparganium angustifolium Michx. (bur-reed)

Sparganium emersum Rehmann (bur-reed)

**Sparganium eurycarpum* Engelm. (bur-reed)

Sparganium fluctuans (Morong) B.L. Rob. (bur-reed)

Sparganium natans L. (bur-reed)

Subclass Arecidae

Order Arales

Family Araceae

Arisaema triphyllum (L.) Schott (jack-in-the-pulpit)

Calla palustris L. (wild calla)

Family Lemnaceae

Lemna minor L. (duckweed)

Lemna trisulca L. (duckweed)

Spirodela polyrrhiza (L.) Schleid. (duckweed)

Subclass Commelinidae

Order Eriocaulales

Family Eriocaulaceae

Eriocaulon melanocephalum (Hill) Druce (pipewort)

Order Juncales

Family Juncaceae

**Juncus arcticus* Willd. var. *balticus* (Willd.) Trautv. (rush)

Juncus articulatus L. (rush)

Juncus brevicaudatus (Englem.) Fernald (rush)

Juncus bufonius L. (rush)

Juncus canadensis J.Gay (rush)

Juncus dudleyi Wiegand (rush)

Juncus effusus L. (rush)

**Juncus greenei* Oakes & Tuck. (rush)

Juncus nodosus L. (rush)

Juncus pelocarpus E. Mey. (rush)

Juncus tenuis Willd. (rush)

**Juncus torreyi* Coville (rush)

Luzula acuminata Raf. (wood rush)

Order Cyperales

Family Cyperaceae

Carex aquatilis Wahlenb. (sedge)

Carex arctata Boott (sedge)

**Carex argyrantha* Tuck. ex Dewey (sedge)

Carex aurea Nutt. (sedge)

**Carex backii* Boott (sedge)

Carex bebbii (L.H. Bailey) Olney ex Fernald (sedge)

Carex brevior (Dewey) Mack. ex Lunell (sedge)

Carex bromoides Schkuhr ex Willd. (sedge)

Carex brunnescens (Pers.) Poir. (sedge)

Carex canescens L. (sedge)

Carex castanea Wahlenb. (sedge)

Carex chordorrhiza Ehrh. ex L. f. (sedge)

Carex communis L.H. Bailey (sedge)

Carex crawfordii Fernald (sedge)

Carex crinita Lam. (sedge)

Carex cristatella Britton & A. Br. (sedge)

Carex cryptolepis Mack. (sedge)

Carex debilis Michx. (sedge)

Carex deflexa Hornem. (sedge)

Carex deweyana Schwein. (sedge)

Carex diandra Schrank (sedge)

Carex disperma Dewey (sedge)

Carex echinata Murray (sedge)

**Carex exilis* Dewey (sedge)

Carex flava L. (sedge)

Carex foenea Willd. (sedge)

Carex gracilescens Steud. (sedge)

Carex gracillima Schwein. (sedge)

Carex gynandra Schwein. (sedge)

Carex houghtoniana Torr. ex Dewey (sedge)

Carex hystericina Muhl. ex Willd. (sedge)

**Carex interior* L.H. Bailey (sedge)

Carex intumescens Rudge (sedge)

Carex lacustris Willd. (sedge)

Carex lasiocarpa Ehrh. (sedge)
Carex laxiflora Lam. (sedge)
Carex lenticularis Michx. (sedge)
Carex leptalea Wahlenb. (sedge)
Carex leptoneuria (Fernald) Fernald (sedge)
Carex limosa L. (sedge)
Carex livida (Wahlenb.) Willd. (sedge)
Carex lupulina Muhl. ex Willd. (sedge)
Carex magellanica Lamarck ssp. *irrigua* (Wahlenb.) Hiitonen (sedge)
Carex oligosperma Michx. (sedge)
Carex pauciflora Lightf. (sedge)
Carex peckii Howe (sedge)
Carex pedunculata Muhl. ex Willd. (sedge)
Carex pennsylvanica Lam. (sedge)
Carex projecta Mack. (sedge)
Carex pseudocyperus L. (sedge)
Carex retrorsa Schwein. (sedge)
Carex rosea Schkuhr ex Willd. (sedge)
Carex rostrata Stokes (sedge)
Carex scabrata Schwein. (sedge)
Carex scoparia Schkuhr ex Willd. (sedge)
Carex sterilis Willd. (sedge)
Carex stipata Muhl. ex Willd. (sedge)
Carex stricta Lam. (sedge)
Carex tenera Dewey (sedge)
Carex tenuiflora Wahlenb. (sedge)
Carex trisperma Dewey (sedge)
Carex tuckermanii Boott (sedge)
Carex umbellata Schkuhr ex Willd. (sedge)
Carex vesicaria L. (sedge)
Carex viridula Michx. (sedge)
Carex vulpinoidea Michx. (sedge)
Cladium mariscoides (Muhl.) Torr. (twig-rush)
Dulichium arundinaceum (L.) R. Br. (spikerush)
Eleocharis acicularis (L.) R.&S. (spikerush)
Eleocharis elliptica Kunth (spikerush)
**Eleocharis intermedia* Schult. (spikerush)
Eleocharis ovata (Roth) Roem. & Schult. (spikerush)
Eleocharis palustris (L.) R. Br. (spikerush)
Eriophorum gracile W.D.J. Koch ex Roth (cotton-grass)
Eriophorum vaginatum L. var. *spissum* (Fernald) B. Boivin (cotton-grass)
Eriophorum virginicum L. (cotton-grass)
Rhynchospora alba (L.) Vahl (beak-rush)
**Rhynchospora capillacea* Torr. (beak-rush)
Schoenoplectus acutus (Muhl. ex Bigelow) Á. Löve & D. Löve (bulrush)
Schoenoplectus subterminalis (Torr.) Soják (bulrush)
Schoenoplectus tabernaemontani (C.C. Gmel.) Palla (bulrush)
**Schoenoplectus torreyi* (Olney) Palla (bulrush)
Scirpus atrovirens Willd. (bulrush)
Scirpus cyperinus Kunth (woolgrass)
Scirpus microcarpus J. Presl. & C. Presl. (bulrush)
Trichophorum alpinum (L.) Pers. (alpine cotton-grass)

Family Poaceae

**†Agrostis capillaris* (L.) (bentgrass)
Agrostis gigantea Roth (redtop)
Agrostis perennans (Walter) Tuck. (bentgrass)

Agrostis scabra Willd. (ticklegrass)
Agrostis stolonifera L. (bentgrass)
Ammophila breviligulata Fernald (beach grass)
Anthoxanthum nitens (Weber) Y. Schouten & Veldkamp (sweet grass)
†*Arrhenatherum elatius* (L.) P. Beauv. ex J. Presl & C. Presl (tall oatgrass)
Avenella flexuosa (L.) Drejer (hairgrass) [formerly *Deschampsia*]
Brachyelytrum erectum (Schreb.) P. Beauv. (woodgrass)
Bromus ciliatus L. (brome)
†*Bromus inermis* Leyss. (brome)
Calamagrostis canadensis (Michx.) P. Beauv. (blue-joint)
**Calamagrostis lacustris* (Kearny) Nash (reed-bentgrass)
Calamovilfa longifolia (Hook.) Hack. ex Scribn. & Southw. (dune grass, sand reed)
Cinna latifolia (Trevir. ex Göpp.) Griseb. (wood-reed)
†*Dactylis glomerata* L. (orchard grass)
**Danthonia compressa* Austin (wild oat-grass)
Danthonia intermedia Vasey (wild oat-grass)
Danthonia spicata (L.) P. Beauv. ex Roem. & Schult. (poverty oat-grass)
Deschampsia cespitosa (L.) P. Beauv. (hairgrass)
Deyeuxia poaeoides (Steud.) Rúgolo (reed grass) [formerly *Calamagrostis*]
Dichantherium acuminatum (Sw.) Gould & C.A.Clark (panic-grass)
Dichantherium acuminatum var. *lindheimeri* (Nash) Gould & C.A. Clark (panic-grass)
**Dichantherium acuminatum* var. *longiligulatum* (Nash) Gould & C.A. Clark (panic-grass)
Dichantherium boreale (Nash) Freckmann (panic grass)
Dichantherium depauperatum (Muhl.) Gould (panic-grass)
Dichantherium oligosanthes (Schult.) Gould (panic-grass)
Dichantherium ovale ssp *villosissimum* (Nash) Freck.&LeLong (panic grass)
Dichantherium portoricense (Desv. ex Ham.) B.F. Hansen & Wunderlin (panic-grass)
Dichantherium xanthophysum (A. Gray) Freckmann (panic-grass)
*†*Digitaria ischaemum* (Schreb.) Muhl. (crab-grass)
†*Echinochloa crusgalli* (L.) P. Beauv. (barnyard grass)
Elymus canadensis L. (wild rye)
Elymus hystrix L. (bottle-brush grass)
**Elymus x pseudorepens* (Scribn. & J.G. Sm. (pro sp.)) Barkworth & D.R. Dewey
†*Elymus repens* (L.) Gould (quackgrass, witchgrass)
Elymus riparius Wiegand (wild rye)
Elymus trachycaulus (Link) Gould ex Shinners (slender wheat grass)
Elymus virginicus L. (wild rye)
**Eragrostis pectinacea* (Michx.) Nees (love-grass)
Festuca occidentalis Hook. (fescue)
†*Festuca ovina* L. (sheep fescue)
*†*Festuca pratensis* Huds. (fescue)
Festuca rubra L. (red fescue)
Festuca saximontana Rydb. (fescue)
Glyceria borealis (Nash) Batch. (mannagrass)
Glyceria canadensis (Michx.) Trin. (mannagrass)
Glyceria grandis S. Watson (mannagrass)
**Glyceria melicaria* (Michx.) F.T. Hubb. (mannagrass)
Glyceria striata (Lam.) Hitchc. (fowl mannagrass)
Koeleria pyramidata (Lam.) P. Beauv. (june grass)
Leersia oryzoides (L.) Sw. (cut grass, rice cut grass)
Leymus mollis (Trin.) Pilg. (wild rye)
*†*Lolium perenne* L. (rye-grass)
Melica smithii (Porter ex A. Gray) Vasey (melic grass)
Milium effusum L. (tall millet)
Muhlenbergia glomerata (Willd.) Trin. (muhly)
Muhlenbergia mexicana (L.) Trin. (muhly)

Muhlenbergia racemosa (Michx.) Britton, Sterns & Poggenb. (muhly)
Oryzopsis asperifolia Michx. (ricegrass)
Panicum capillare L. (witch grass)
 *†*Panicum miliaceum* L. (broom-corn millet)
 †*Phalaris arundinacea* L. (reed canary grass)
Phleum pratense L. (timothy)
Phragmites australis (Cav.) Trin. ex Steud. (common reed, giant reed)
Piptatherum pungens (Torr.) Dorn (ricegrass) [formerly *Oryzopsis*]
Poa alsodes A. Gray (blue-grass)
 †*Poa annua* L. (blue-grass)
 †*Poa compressa* L. (blue-grass)
Poa glauca Vahl. (blue-grass)
Poa nemoralis L. (blue-grass)
Poa palustris L. (blue-grass)
Poa pratensis L. (blue-grass)
Poa saltuensis Fern. & Wieg. (blue-grass)
Poa sylvestris Gray (blue-grass)
Schizachne purpurascens (Torr.) Swallen (false melic)
 †*Setaria viridis* (L.) P. Beauv. (green foxtail)
Torreyochloa pallida (Torr.) G.L. Church (meadow grass)
 **Trisetum spicatum* (L.) K. Richt. (false oats)

Order Typhales

Family Typhaceae

Typha domingensis L. (narrow-leaved cat-tail)
Typha latifolia L. (broad-leaved cat-tail)

Subclass Liliidae

Order Liliales

The traditional lily family, Liliaceae, has been generally recognized as highly polyphyletic. Various proposed revisions have dismembered it into as many as 25 families recognizing closer evolutionary relationships. *Flora of North America*, while offering a 'suggested disposition' of traditional lily genera, avoids the issue by retaining a relatively traditional broad concept. However, current sources, including the *Tropicos* data-base have converged on the subdivision followed here, segregating Asparagaceae (*Asparagus*, *Maianthemum*, Polygonatum), Colchicaceae (*Uvularia*), Melianthiaceae (*Trillium*), and Xanthorrhoeaceae (*Hemerocallis*). This may well change again with more genetic data.

Family Asparagaceae

†*Asparagus officinalis* L. (asparagus)
Maianthemum canadense Desf. (canada mayflower)
Maianthemum racemosum ssp. *racemosum* (L.) Link (false solomon's seal)
Maianthemum stellatum (L.) Link (false solomon's seal)
Maianthemum trifolium (L.) Sloboda (false solomon's seal)
 **Polygonatum biflorum* (Walter) Elliott (solomon's seal)
Polygonatum pubescens (Willd.) Pursh (solomon's seal)nor

Family Colchicaceae

Uvularia grandiflora Sm. (bellwort)

Family Pontederiaceae

Heteranthera dubia (Jacq.) MacMill. (water star-grass)
Pontederia cordata L. (pickerelweed)

Family Liliaceae

Clintonia borealis (Aiton) Raf. (bluebead lily)
Erythronium americanum Ker Gawl. (yellow trout-lily)
Streptopus amplexifolius (L.) DC. (twisted-stalk)
Streptopus lanceolatus (Aiton) Reveal (rosy twisted-stalk)

Family Iridaceae

- *†*Iris sibirica* L. (Siberian iris)
- Iris versicolor* L. (wild blue flag, wild iris)
- Sisyrinchium montanum* Greene (blue-eyed grass)

Family Melianthiaceae

- Trillium cernuum* L. (nodding trillium)

Family Xanthorrhoeaceae

- *†*Hemerocallis lilioasphodelus* var. *flava* L. (yellow day-lily)

Order Orchidales

Family Orchidaceae

- **Arethusa bulbosa* L. (arethusa)
- **Calopogon tuberosus* (L.) Britton, Sterns & Poggenb. (grass-pink)
- Calypso bulbosa* (L.) Oakes (calypso)
- Coeloglossum viride* (L.) Hartm. (frog-orchis)
- Corallorhiza maculata* (Raf.) Raf. (coral-root)
- Corallorhiza striata* Lindl. (coral-root)
- Corallorhiza trifida* Châtel. (early coral-root)
- Cypripedium acaule* Aiton (pink lady-slipper)
- Cypripedium arietinum* R.Br. (ram's-head lady-slipper)
- Cypripedium parviflorum* L. var. *pubescens* (Willd.) O.W. Knight (yellow lady-slipper)
- *†*Epipactis helleborine* (L.) Crantz (helleborine)
- Goodyera oblongifolia* Raf. (rattlesnake plantain)
- Goodyera pubescens* (Willd.) R.Br. (rattlesnake plantain)
- Goodyera repens* (L.) R.Br. (rattlesnake plantain)
- Goodyera tessellata* Lodd. (rattlesnake plantain)
- Liparis loeselii* (L.) Rich. (twayblade)
- Listera convallarioides* (Sw.) Torr. (twayblade)
- Listera cordata* (L.) R.Br. (twayblade)
- **Malaxis monophyllos* (L.) Sw. (adder's-mouth)
- Malaxis unifolia* Michx. (green adder's-mouth)
- **Platanthera x andrewsii* (M. White) Luer (Andrews' bog orchid)
- Platanthera clavellata* (Michx.) Luer (green woodland orchis)
- Platanthera dilatata* (Pursh) Lindl. ex L.C. Beck (bog candle)
- Platanthera flava* (L.) Lindl. var. *herbiola* (R. Br.) Luer (tuberclad orchis)
- Platanthera hookeri* (Torr. ex. Gray) Lindl. (hooker's orchis)
- Platanthera huronensis* (Nutt.) Lindl. (tall northern bog-orchid)
- **Platanthera lacera* (Michx.) G. Don (ragged fringed orchid)
- Platanthera obtusata* (Banks ex Pursh) Lindl. (rein-orchis)
- Platanthera orbiculata* (Pursh) Lindl. (round-leaved orchis)
- Platanthera psycodes* (L.) Lindl. (purple fringed orchis)
- Pogonia ophioglossoides* (L.) Ker Gawl. (rose pogonia)
- **Spiranthes casei* Catling & Cruise (ladies' tresses)
- Spiranthes cernua* (L.) Rich. (ladies' tresses)
- Spiranthes lacera* (Raf.) Raf. (ladies' tresses)
- Spiranthes romanzoffiana* Cham. (ladies' tresses)

KINGDOM FUNGI

Current concepts of the **Fungi** limit these organisms to non-motile, filamentous or single-celled microbes, lacking chlorophyll, with chitinous cell walls, reproducing by spores, some of which produce large fleshy fruiting bodies (mushrooms). While there have been several extensive surveys of fungi at the Huron Mts., the Kingdom is certainly only partially documented, and the 'micro-fungi' remain substantially unknown.

Initial compilations for the two major phyla, Ascomycota and Basidiomycota, were by Dana L. Richter and Maria P. Beardslee (Michigan Technological University) from a variety of reports, both published and unpublished. Species are grouped here according to current taxonomy as found in the world database of fungal names maintained by *Index Fungorum* (Commonwealth Agricultural Bureau International-Bioscience, UK, and Centraalbureau voor Schimmelcultures, The Netherlands) (www.indexfungorum.org). Within phyla Ascomycota and Basidiomycota, species are grouped by order, segregated by family only for some of the larger orders. Names from the various listings have been updated to the latest accepted name according to *Index Fungorum*. Fungi for which authorities were provided in original sources are, for the most part, given as cited in those sources. As far as possible, synonyms have been identified and eliminated, with the most current name retained.

The oldest published list of fungi from the Huron Mountains is from *The Book of Huron Mountain* (Dodge 1929) and includes 107 species; these are identified by asterisks in this list. Other sources include published compilations by include Ammirati and Smith (1972), Banik and Burdsall (2000), Ginns (1994), Richter (1996, 2004), and Smith and Thiers (1971), and unpublished reports by Burdsall (1974), Harrison (1970), Mueller & Miller (2000), Olexia (1971), Petersen (1971), Richter (1995-2010), and Wu (1995,1997).

Significant updates as of the 2017 version of this document include listings of soil microfungi in phyla Deuteromycota and Zygomycota (unpublished report, Richter 2007), a compilation of records for Huron Mountain Club collections held at the University of Michigan Herbarium (unpublished report, Richter and Kangas 2007) adding 213 new named taxa, and listing of field observations from Levitis and Pringle (2016). A revision and update to the list was made in 2011 (Richter and Brusso 2011, unpublished report) eliminating duplications, rearranging according to current taxonomy, and adding 15 new species

The current list includes 883 taxa, of which 706 taxa belong to the Basidiomycota; 8 of these basidiomycete species are duplicated at the varietal level; thus the grand total of species under the Kingdom Fungi is 875.

Phylum DEUTEROMYCOTA (*Fungi imperfecti*)

These taxa are not assigned to any of the recognized phylogenetic groups within Kingdom Fungi, largely because the sexual reproductive stanges on which phylogenetic relationships are based have never been observed. With further genetic work, most will be more confidently assigned elsewhere (some likely have been so assigned, but I have not caught up...).

Alternaria alternata (Fr.) Keissler
Aspergillus fumigatus Fres.
Aspergillus niger van Tiegem
Aureobasidium pullulans (de Bary) Arnaud
Cladosporium herbarum (Pers.) Link
Gliocladium viride Matr.
Hansfordia biophilia (Cif.) Ellis
Monocillium humicola Barron
Oidiodendron cerealis (Thom) Barron
Oidiodendron citrinum Barron
Oidiodendron flavum Szilvinyi
Paecilomyces variotii Bainer
Penicillium funiculosum Thom
Penicillium janthinellum Biourge
Penicillium nigricans Bainier
Penicillium resticulosum Birk., Raist. and Smith
Penicillium thomii Maire
Phialophora fastigiata (Lager and Melin) Conant
Phoma humicola Gilman and Abbot
Trichoderma album Preuss
Trichoderma harzianum Rifai
Trichoderma koningi Oued.
Trichoderma lignorum (Tode) Harz.

Ulocladium botrytis Preuss
Verticillium terrestre (Pers.) Sacc.

Phylum CHYTRIDIOMYCOTA

The 'water-molds' are a large group of microfungi. This initial survey, listing 38 species, is from Gaertner and Sparrow (1966), but includes some ambiguity as to total number of distinct taxa, given the large number of unidentified species.

Class Chytridiomycetes

Order Chytridiales

Family Chytridiaceae

Phlyctidium sp.
Phlyctochytrium africanum A.Gaertn.
Phlyctochytrium bullatum Sparrow
Phlyctochytrium irregulare W.J. Koch
Phlyctochytrium palustre A. Gaertn.
Phlyctochytrium planicornae G.F. Atk.
Phlyctochytrium sp. 1
Phlyctochytrium sp. 2
Phlyctochytrium sp. 3
Phlyctochytrium sp. 4
Phlyctochytrium sp. 5
Phlyctochytrium sp. 6
Phlyctochytrium sp. 7
Phlyctochytrium sp. 8
Rhizophydium biporosum Couch
Rhizophydium carpophilum Zopf
Rhizophydium racemosum A. Gaertn.
Rhizophydium sphaerocarpum (Zopf) Fisch.
Rhizophydium sphaerotheca Zopf
Rhizophydium subangulosum (A.Braun) Rabenh.
Rhizophydium laterale (A.Braun) Rabenh.
Rhizophydium sp. 1
Rhizophydium sp. 2
Rhizophydium sp. 3
Rhizophydium sp. 4
Rhizophydium sp. 5
Rhizophydium sp. 6

Order Peronosporales

Family Pythiaceae

Cornomyces pygmaeus (Zopf) M.W.Dick
Pythium sp

Order Spizellomycetales

Family Olpidiaceae

Olpidium luxurians (Tomaschek) A.Fisch.
Olpidium pendulum Zopf
Olpidium sp
Rhizophlyctis sp.

Class Phycomycetes

Order Lagenidiales

Family Olpidiopsidaceae

Olpidiopsis sp

Order Saprolegniales

Family Saprolegniaceae

Achlya sp

Aphanomyces sp

Saprolegnia ferax Kütz.

Saprolegnia sp.

Phylum ZYGOMYCOTA

Absidia repens van Tieghem

Mortierella ambigua Mehrotra

Mortierella isabellina (Oued.) Zycha

Mortierella nana Linn.

Mortierella ramanniana (Moeller) Linn.

Mortierella vinacea Dixon-Stewart

Mortierella verticilliata Linn.

Mucor hiemalis Wehmer

Mucor microsporus Naumov.

Rhizopus arrhizus Fischer

Phylum ASCOMYCOTA

The Ascomycota (or 'sac fungi') are the most diverse phylum within Kingdom Fungi, but they are much more poorly documented than the Basidiomycota (which include most of the familiar 'mushrooms', shelf fungi, etc.). Recent discoveries, using genetic analyses, show that many species of Ascomycota (and a few Basidiomycota) live as 'endophytic' fungi, carrying out their life-cycle entirely within the cells and tissues of vascular plants and lichens. Researchers believe that, in most or all cases, these fungi are symbiotic mutualists, with host plants benefiting from fungal chemicals that defend against herbivores. Endophytic fungi are can be identified only by isolating and culturing them and using genetic analyses to assign them to genus level. Dr. Elizabeth Arnold (University of Arizona) cultured over 1000 endophytic fungal specimens from samples of plants (several conifers and members of the Ericaceae) and lichens from the Huron Mts, and identified about 60 genera of ascomycetes and two basidiomycetes (Arnold 2015, unpublished report). Most of the species listed here by genus without species identification are from that work.

Order Acarosporales

Family Acarosporaceae

Acarospora sp

Order Boliniales

Family Boliniaceae

Camarops sp

Order Botryosphaeriales

Family Phyllostictaceae

Guignardia sp

Order Capnodiales

Family Mycosphaerellaceae

Mycosphaerella sp

Family Teratosphaeriaceae

Penidiella sp

*Teratosphaeria*_sp

Order Chaetothyriales

Family Herpotrichiellaceae

Cladophialophora sp

Order Coniochaetales

Family Coniochaetaceae

Coniochaeta sp

Order Diaporthales

Family Valsaceae

Cytospora sp.

Radulum casearium (Morgan) Lloyd

Order Dothideales

Family Dothideaceae

Dothidea sp

Order Eurotiales

Family Aspergillaceae

Aspergillus sp

Eurotium sp

Penicillium sp

Family Elaphomycetaceae

Elaphomyces granulatus var. *asperulus* (Vitt.) Hawker

Elaphomyces septatus Vittad.

Family Thermoascaceae

Byssochlamys sp

Family Trichocomaceae

Talaromyces sp

Order Geoglossales

Family Geoglossaceae

Geoglossum sp

Order Helotiales

Family Cudoniaceae

Spathularia flavida Pers.*

Spathulariopsis velutipes (Cooke) Geest.*

Family Dermateaceae

Cryptosporiopsis sp

Family Geoglossaceae

Microglossum rufum (Schwein.) Underw.

Family Helotiaceae

Bisporella citrina (Batsch) Korf & S.E.Carp.

Chlorociboria aeruginascens (Nyl.) Kanouse*

Family Hyaloscyphaceae

Catenulifera sp

Cistella sp

Hyphodiscus sp

Family Leotiaceae

Leotia lubrica (Scop.) Pers.

Order Hypocreales

Family Clavicipitaceae

Claviceps purpurea (Fr.) Tul.

Family Cordycipitaceae

Beauveria sp
Cordyceps ophioglossoides (Ehrh.:Fr.) Link
Lecanicillium sp.

Family Ophiocordycipitaceae

Ophiocordyceps sp.
Tolypocladium sp.

Order Ophiostomatales

Family Ophiostomataceae

Leptographium sp.
Ophiostoma ulmi (Buisman) Nannf.

Order Pezizales

Family Discinaceae

Gyromitra ambigua (Karst.) Harmaja
Gyromitra esculenta (Fr.) Fr.
Gyromitra sphaerospora (Peck) Sacc.
Gyromitra sp
Hydnotrya cubispora (Bessey & Thomps.) Gilkey

Family Helvellaceae

Helvella crispa (Scop.) Fr.
Helvella elastica Bull.: Fries
Helvella lacunosa Afz.:Fr.
Helvella macropus (Pers.) P. Karst.
Helvella palustris Peck
Helvella pezizoides Afzel.
Helvella subglabra N.S.Weber

Family Pezizaceae

*Peziza endata**
Peziza repanda P. Karst.
Peziza sp

Family Pyronemataceae

Aleuria aurantia (Pers.: Fr.) Fuckel
Cheilymenia stercorea (Pers.: Fr.) Boud.
Geopyxis sp
Gilkeya sp
Humaria hemisphaerica (H.A.Wigg. ex Fr.) Fuckel
Scutellinia scutellata (L.) Lamb.
Scutellinia sp.

Family Sarcoscyphaceae

Pithya sp.

Family Sarcosomataceae

Plectania sp
Pseudoplectania sp
Sarcosoma sp

Family Tuberaceae

Tuber sp.

Order Phaeomoniellales

Family Phaeomoniellaceae

Phaeomoniella sp

Order Pleosporales

Incertae sedis

Didymella sp

Family Cucurbitariaceae

Pyrenochaeta sp

Pyrenochaetopsis sp

Family Didymellaceae

Stagonosporopsis sp

Family Massariaceae

Massaria sp

Massarina sp

Family Pleosporaceae

Alternaria sp

Cochliobolus sp

Camarosporium sp

Family Sporormiaceae

Preussia sp

Sporormiella lageniformis (Fuckel) S.I. Ahmed & Cain.

Order Sordariales

Family Annulatascaceae

Ceratostomella subdenudata (Peck) M.E. Barr

Family Ceratocystidaceae

Ceratocystis fimbriata Ell. & Hallst.

Ceratocystis ips (Rumb.) Moreau

Ceratocystis perfecta Davidson

Ceratocystis pilifera (Fr.) Moreau

Ceratocystis virescens (Davidson) Moreau

Family Chaetomiaceae

Chaetomium sp

Family Chaetosphaeriaceae

Chaetosphaeria sp

Family Lasiosphaeriaceae

Cercophora caudata (Curr.) N. Lundq.

Lasiochaeria hirsuta Fr.

Lasiochaeria hispida (Tode) Fuckel

Lasiochaeria ovina (Pers.) Ces. & De Not.

Lasiochaeria spermoides (Hoffm.) Ces. & De Not.

Lasiochaeria sp.

Family Sordariaceae

Sordaria sp.

Order Teloschistales

Family Teloschistaceae

Fulgensia sp

Order Trichosphaeriales

Family Trichosphaeriaceae

Nigrospora sp

Order Venturiales

Family Venturiaceae

Cylindrosyndonium sp

Venturia sp

Order Verrucariales

Family Verrucariaceae

Thelidium sp

Order Xylariales

Family Diatrypaceae

Eutypella parasitica Davidson & Lorenz

Family Xylariaceae

Anthostomella sp.

Biscogniauxia sp.

Kretzschmaria deusta (Hoffm.) P.M.D. Martin

Nemania sp.

Obolarina sp.

Xylaria sp.

Xylaria polymorpha (Pers.) Grev.

Phylum BASIDIOMYCOTA

Order Agaricales

Family Agaricaceae

Agaricus arvensis Schaeff.*

Agaricus campestris L.*

Agaricus silvicola (Vittad.) Peck*

Bovista pila Berk. & M.A.Curtis

Coronicium alboglaucum (Bourdot & Galzin) Jülich

Cystoderma fallax Smith & Singer

Leucoagaricus americanus (Peck) Vellinga

Lycoperdon perlatum Pers.*

Lycoperdon pyriforme Pers.*

Macrolepiota procera (Scop. ex Fr.) Singer*

Morganella subincarnata Kreisel & Dring

Melanophyllum echinatum (Roth) Singer

Nidularia sp.*

Panaeolus retirugis (Fr.) Gillet*

Family Amanitaceae

Amanita bisporigera G.F.Atk.

Amanita brunnescens Atk.

Amanita caesarea (Scop.) Pers.*

Amanita ceciliae (B. & Br.) Bas

Amanita citrina Schaeff. ex S.F.Gray

Amanita flavoconia Atk.

Amanita floccocephala G.F. Atk.*

Amanita frostiana (Peck) Saccardo

Amanita fulva (Schaeff.) Pers.

Amanita gemmata (Fr.) Gill.

Amanita inaurata Secr.

Amanita muscaria var. *formosa* (Pers. ex Fr.) Bert. in DeCham.*

Amanita muscaria var. *guessowii* Vesely

Amanita pantherina (DC.) Krombh.

Amanita phalloides Secr.*

Amanita porphyria (A. & S. ex Fr.) Secr.

Amanita rubescens (Pers. ex Fr.) S.F.Gray

Amanita vaginata (Bull.) Romagn.

Amanita virosa Secr.

Family Bolbitiaceae

Conocybe sp

Family Clavariaceae

Clavaria acris Peck*

Clavaria acuta Fr.

Clavaria asperula G.F. Atk.*

Clavaria mucida Pers.*
Clavulinopsis fusiformis (Sowerby) Corner
Mucronella calva (Alb. & Schwein.) Fr.

Family Cortinariaceae

Cortinarius alboviolaceus (Fr.) Fr.
Cortinarius anomalus (Fr.) Fr.
Cortinarius armillatus (Fr.) Fr.*
Cortinarius azureus Fr.
Cortinarius camphoratus (Fr.) Fr.
Cortinarius caperatus (Pers.) Fr.
Cortinarius chrysolitus Kauffman
Cortinarius collinitus (Fr.) S.F.Gray
Cortinarius croceofolius Peck
Cortinarius cylindripes Kauffman*
Cortinarius huronensis Ammirati & Smith
Cortinarius huronensis var. *olivaceus* Ammirati & Smith
Cortinarius incognitus Ammirati & Smith
Cortinarius lilacinus Pk.
Cortinarius lucorum (Fr.) J.E. Lange
Cortinarius malicorius Fr.
Cortinarius obtusus Fr.
Cortinarius pellstonianus Ammirati & Smith
Cortinarius purpureus (Fr.) Maire
Cortinarius sanguineus Fr.
Cortinarius semisanguineus (Fr.) Gill.
Cortinarius sphaerosporus Peck
Cortinarius subcroceofolius Ammirati & Smith
Cortinarius subcroceofolius var. *sordidipes* Ammirati & Smith
Cortinarius traganus (Weinm. ex Fr.) Fr.
Cortinarius trivialis Lange
Cortinarius tubarius var. *luteifolius* Ammirati & Smith
Cortinarius uliginosus Ammirati & Smith
Cortinarius vibratilis Fr. (cf)
Cortinarius violaceus (L.) Gray*

Family Cyphellaceae

Chondrostereum purpureum (Pers.) Pouzar

Family Entolomataceae

Clitopilus albogriseus Peck*
Entoloma grande Peck
Entoloma grayanum (Peck) Sacc.*
Entoloma sinuatum (Bull. ex Fr.) Kum.
Nolanea murrayi (Berk. & M.A. Curtis) Dennis
Nolanea salmonea (Peck) Pomerl.
Pouzarella celata Mazzer
Pouzarella foetida Mazzer

Family Fistulinaceae

Fistulina hepatica (Schaeff.) With.*

Family Hydnangiaceae

Laccaria amethystina Cooke
Laccaria bicolor (Maire) Orton
Laccaria laccata (Scop. ex Fr.) Cke.
Laccaria trullisata (Ell.) Pk.

Family Hygrophoraceae

Hygrocybe canescens (A.H. Sm. & Hesler) P.D. Orton
Hygrocybe cantharellus (Schwein.) Murrill*
Hygrocybe cantharius var. *concolor* (Schwein.) Murrill

Hygrocybe chlorophana (Fr.) Wünsche
Hygrocybe coccinea (Schaeff.) P. Kumm.
Hygrocybe colemanniana (A. Bloxam) P.D. Orton & Watling
Hygrocybe conica var. *conica* (Scop.) P. Kumm.
Hygrocybe helobia (Arnolds) Bon
Hygrocybe irrigata (Pers.) M.M. Moser
Hygrocybe lacmus (Schumach.) P.D. Orton & Watling
Hygrocybe laeta var. *laeta* (Pers.) P. Kumm.
Hygrocybe marginatus Smith & Hesler
Hygrocybe miniata (Fr.) Kummer
Hygrocybe pratensis var. *pratensis* (Pers.) Bon
Hygrocybe psittacina var. *psittacina* (Schaeff.) P. Kumm.
Hygrocybe punicea (Fr.) P. Kumm.
Hygrocybe virginea var. *virginea* (Wulfen) P.D. Orton & Watling
Hygrophorus acutoconicus var. *acutoconicus* (Clem.) A.H.Sm.
Hygrophorus agathosmus Fr.
Hygrophorus borealis Peck
Hygrophorus camarophyllus (Alb. & Schwein.) Dumée, Grandjean & Maire
Hygrophorus cremicolor (Murrill) Murrill
Hygrophorus discoxanthus Rea (1908)
Hygrophorus eburneus (Bull.) Fr.
Hygrophorus erubescens var. *gracilis* A.H.Sm. & Hesler
Hygrophorus flavodiscus Frost apud Peck
Hygrophorus fuliginus Frost
Hygrophorus fuscoalboides Hesler & A.H.Sm.
Hygrophorus hypothejus (Fr.) Fr.
Hygrophorus marginatus Peck
Hygrophorus marginatus var. *concolor* A.H.Sm.
Hygrophorus nitidus Berk. & M.A.Curtis
Hygrophorus parvulus Peck
Hygrophorus persoonii Arnolds
Hygrophorus pratensis var. *pratensis* (Fr.) Fr.
Hygrophorus pudorinus (Fr.) Fr.
Hygrophorus rainierensis Hesler & A.H.Sm.
Hygrophorus speciosus Peck
Hygrophorus stowelii Hesler & A.H.Sm.
Hygrophorus subceraceus (Murrill) Murrill
Hygrophorus squamulosus Ellis & Everh.
Hygrophorus tephroleucus var. *aureofloccosus* A.H.Sm. &
Hygrophorus unguinosus var. *unguinus* (Fr.) Fr.

Family Incerta sedis

Plicaturopsis crispa (Pers.) D.A. Reid

Family Inocybaceae

Crepidotus croceitinctus Peck
Crepidotus crocophyllus (Berk.) Sacc.
Crepidotus cuneiformis Pat.
Crepidotus fimbriatus Hesler & A.H.Sm.
Crepidotus fraxinicola Murrill
Crepidotus fusisporus Hesler & A.H.Sm.
Crepidotus lundellii Pilát
Crepidotus malachus var. *malachus* (Berk. & M.A.Curtis) Sacc.
Crepidotus mollis (Fr.) Staude
Crepidotus nephrodes (Berk. & M.A.Curtis) Sacc.
Crepidotus subverrucisporus var. *subverrucisporus* Pilát
Crepidotus versutus (Peck) Sacc.*
Inocybe lacera (Fr.) Kummer

Family Lachnocladiaceae

Vararia granulosa (Pers.) Laurila

Vararia investiens (Schwein.) P. Karst.

Family Lycoperdaceae

Calvatia gigantea (Batsch) Lloyd

Family Lyophyllaceae

Hypsizygus tessulatus (Bull. ex Fr.) Singer

Lyophyllum decastes (Fr.: Fr.) Sing.

Family Marasmiaceae

Gymnopus acervatus (Fr.) Murrill

Gymnopus dryophilus (Bull.) Murrill

Henningsomyces candidus (Pers.) Kuntze

Marasmius borealis Gilliam

Marasmius cohaerens var. *cohaerens* (Alb. & Schwein.) Cooke & Quél.

Marasmius cohaerens var. *lachnophyllus* (Berk. in Lea) Gilliam

Marasmius curreyi Berk. & Broome

Marasmius oreades (Bolton) Fr.*

Marasmius pallidocephalus Gilliam

Marasmius rotula (Scop. ex Fr.) Fr. (cf)

Marasmius scorodoni Fr.

Megacollybia platyphylla (Pers.) Kotl. & Pouzar

Rhodocollybia butyracea f. *butyracea* (Bull.) Antonín & Noordel.

Rhodocollybia maculata var. *maculata*

Family Mycenaceae

Hemimycena gracilis (Quél.) Singer

Hemimycena rickenii (A.H. Sm.) Singer

Hydropus scabripes (Murrill) Singer

Mycena abramsii Murrill

Mycena acicula (Fr.) Quél.

Mycena alcalina (Fr.) Quél. (*sensu lato*)

Mycena algeriensis Maire in Kuhner

Mycena alnicola A.H. Sm.

Mycena amabilissima Peck

Mycena capillaripes Peck

Mycena citrinomarginata Gillet

Mycena epipterygia var. *epipterygia* (Scop.) Gray

Mycena flavoalba (Fr.) Quél.

Mycena fusco-occula Smith

Mycena galericulata sl (Fr.) S.F. Gray *

Mycena haematopus sl (Fr.) Quél.

Mycena leaiana (Berk.) Sacc.

Mycena laevigata (Lasch) Quél.

Mycena maculata P. Karst.

Mycena megaspora Kauffman in Kauffman & A.H. Sm.

Mycena niveipes Murrill

Mycena pura (Fr.) Quél.

Mycena purpureofusca (Peck) Sacc.

Mycena rorida (Fr.) Quél.

Mycena rosella (Fr.) Kumm.

Mycena rutilantiformis Murrill

Mycena sanguinolenta (Fr.) Quél.

Mycena speirea (Fr.) Gillet

Mycena subcana A.H. Sm.

Mycena vulgaris (Pers.) P. Kumm.*

Mycena subcaerulea (Peck) Sacc.

Mycena thujina A.H. Sm.

Panellus serotinus (Schrad.) Kühner
Panellus stipticus (Bull.:Fr.) Karst.
Xeromphalina campanella (Batsch) Maire

Family Niaceae

Cyphellopsis anomala (Pers.) Donk

Family Physalacriaceae

Armillaria gallica Marxm. & Romagn.
Armillaria mellea s.l. (Val.:Fr.) Kummer*
Cyptotrampa chrysopeplum (Berk. & Curt.) Singer
Physalacria inflata (Schw.:Fr.) Peck
Xerula furfuracea sl (Peck) Redhead, Ginns & Shoemaker
Xerula longipes (P. Kumm.) Maire*
Xerula radicata (Rehhan) Dörfelt

Family Pleurotaceae

Pleurotus dryinus (Pers.) P. Kumm.
Pleurotus ostreatus (Jacq.:Fr.) Quél.*
Pleurotus petaloides (Bull.) Quél.*
Pleurotus sapidus (Kalchbr.) Sacc.

Family Pluteaceae

Pluteus admirabilis Peck
Pluteus aurantiorugosus (Trog) Sacc.
Pluteus cervinus Schaeff.*
Pluteus leoninus (Schaeff.) P. Kumm.
Pluteus tomentosulus Peck*
Volvariella bombycina (Schaeff. ex Fr.) Singer*

Family Psathyrellaceae

Coprinellus disseminatus (Pers.) Gray
Coprinopsis atramentaria (Bull.) Redhead
Psathyrella avellaneifolia A.H.Sm.
Psathyrella candolleana (Fr.) Maire*
Psathyrella conissans (Peck) A.H.Sm.
Psathyrella fulvescens var. *fulvescens* (Romagn.) M.M. Moser ex A.H. Sm.
Psathyrella fuscofolia (Peck) A.H.Sm.
Psathyrella huronensis A.H.Sm.
Psathyrella incerta (Peck) A.H.Sm.
Psathyrella incondita A.H.Sm.
Psathyrella indecorosa A.H.Sm.
Psathyrella iterata var. *iterata* A.H.Sm.
Psathyrella kauffmanii A.H.Sm.
Psathyrella pannuciooides A.H.Sm.
Psathyrella paradoxa A.H.Sm.
Psathyrella rubiginosa A.H.Sm.
Psathyrella septentrionalis A.H.Sm.
Psathyrella spadicea (Fr.) Singer
Psathyrella spadiceogrisea (Fr.) Maire
Psathyrella subagraria (G.F.Atk.) A.H.Sm.
Psathyrella submontana A.H.Sm.
Psathyrella superiorensis A.H.Sm.
Psathyrella velibrunnescens A.H.Sm.
Psathyrella vialis A.H.Sm

Family Schizophyllaceae

Schizophyllum commune Fr.:Fr.*

Family Strophariaceae

Galerina naucoriooides A.H.Sm. & Singer
Galerina paludosa (Fr.) Kühner
Galerina triscopa f. *triscopa* (Fr.) Kühner

Gymnopilus penetrans (Fr. ex Fr.) Murr.
Gymnopilus sapineus (Fr.) Maire*
Gymnopilus terrestris Hesler (cf)
Hebeloma crustuliniforme (Bull.) Quél.
Hebeloma mesophaeum (Pers.:Fr.) Quél.
Hypholoma sublateritium (Fr.) Quél.*
Kuehneromyces vernalis (Peck) Singer & A.H. Sm.
Pholiota adiposa (Batsch) Quél.*
Pholiota albocrenulata (Peck) Sacc.
Pholiota aurivella (Fr.) P.Kumm.
Pholiota destruens (Brond.) Gillet
Pholiota elongatipes (Peck) A.H.Sm. & Hesler
Pholiota flammans (Batsch) P. Kumm.
Pholiota granulosa (Peck) A.H.Sm. & Hesler
Pholiota limonella (Peck) Sacc.
Pholiota malicola (Kauffman) A.H.Sm.
Pholiota mixta (Fr.) Kuyper & Tjall.-Beuk.
Pholiota myosotis (Fr.) Singer
Pholiota populnea (Pers.) Kuyper & Tjall.-Beuk.
Pholiota squarrosoides (Peck) Sacc.*
Pholiota veris A.H.Sm. & Hesler
Stropharia rugosoannulata Farl. ex Murrill

Family Tricholomataceae

Clitocybe bartelliae H.E. Bigelow & A.H.Sm.
Clitocybe clavipes (Fr.) Kummer
Clitocybe dicolor (Pers.) Murrill
Clitocybe dilatata Pers. ex Karst.
Clitocybe eccentrica Peck
Clitocybe ectypoides Peck*
Clitocybe gerardiana (Peck) Sacc.
Clitocybe gibba (Pers.) P. Kumm.
Clitocybe multiceps (Peck) Sacc.*
Clitocybe nuda (Fr.) Bigelow & A.H.Sm.
Clitocybe ochropurpurea (Berk.) Sacc.*
Clitocybe odora (Fr.) P.Kumm.
Clitocybe phaeophthalma (Pers.) Kuyper
Clitocybe radicellata Godey
Clitocybe ramigena H.E. Bigelow
Clitocybe robusta Peck (cf)
Clitocybe sinopica (Fr.) P.Kumm.
Clitocybe squamulosa (Fr.) P.Kumm
Collybia abundans Peck*
Lepista personata (Fr.) Cooke*
Omphalina epichysium (Pers.) Quél.
Phyllotopsis nidulans (Pers.: Fr.) Sing.
Pseudoclitocybe cyathiformis (Bull.) Singer
Tricholoma flavovirens (Pers. ex Fr.) Lund.
Tricholoma magnivelare (Pk.) Redhead
Tricholoma pardinum Quél.
Tricholoma resplendens Fr.
Tricholoma saponaceum (Fr.) Kum.
Tricholoma sejunctum (Sow. ex Fr.) Quél.
Tricholomopsis decora (Fr.) Singer
Tricholomopsis rutilans (Fr.) Singer

Family Typhulaceae

Macrotyphula juncea (Alb. & Schwein.) Berthier

Typhula sclerotioides (Pers.) Fr.

Order Atheliales

Family Atheliaceae

Amphinema byssoides (Pers.:Fr.) Eriksson
Athelia bombacina (Pers.) Jülich
Athelia coprophila (Wakef.) Jülich
Athelia galzinii Bourd.
Fibulomyces mutabilis (Bres.) Jülich
Leptosporomyces galzinii (Bourd.) Jülich
Leptosporomyces mundus (H.S. Jacks. & Dearden) Jülich
Piloderma bicolor (Peck) Jülich

Order Atractiellales

Family Phleogenaceae

Helicogloea lagerheimii Pat.

Order Auriculariales

Auricularia auricula (Hook.) Underwood
Basidiodendron caesiocinereum (Höhn. & Litsch.) Luck-Allen
Basidiodendron cinereum (Bres.) Luck-Allen
Basidiodendron eyrei (Wakef.) Luck-Allen
Bourdotia deminuta (Bourdot) Bourdot & Galzin
Exidia glandulosa (Bull.) Fr.,
Exidiopsis opalea (Bourdot & Galzin) D.A. Reid
Microsebacina fugacissima (Bourdot & Galzin) P. Roberts
Pseudohydnum gelatinosum (Scop.: Fr.) P. Karst.

Order Boletales

Family Amylocorticiaceae

Amylocorticium cebennense (Bourd.) Pouzar
Amylocorticium subincarnatum (Peck) Pouzar
Ceraceomyces serpens (Tode) Ginns
Ceraceomyces sublaevis (Bres) Jülich

Family Boletaceae

Austroboletus gracilis (Peck) Wolfe
Boletellus chrysenteroides (Snell) Singer
Boletellus mirabilis (Murrill) Singer
Boletellus russellii (Frost) Gilbert
Boletus edulis Bull. ex Fr.*
Boletus erythropus (Fr.) Krombh. (*sensu lato*)
Boletus flammans E.A. Dick & Snell
Boletus huronensis A.H. Sm. & Thiers
Boletus miniatopallescens A.H. Sm. & Thiers
Boletus morrisii Peck
Boletus pallidus Frost
Boletus pinophilus Pilát & Dermek
Boletus piperatus Bull. ex. Fr.
Boletus projectellus Murr.
Boletus pseudopeckii A.H. Sm. & Thiers
Boletus reticulatus J.M. Hook
Boletus rubroflammeus A.H.Sm. & Thiers
Boletus rufocinnamomeus A.H.Sm. & Thiers
Boletus spadiceus Fr.
Boletus subhuridellus A.H. Sm. & Thiers
Boletus subglabripes Peck

Boletus subpalustris A.H.Sm. & Thiers
Boletus subtomentosus Pers
Boletus subvelutipes Peck
Boletus truncatus (Singer, Snell, & E.A.Dick) Pouzar
Ceratomyces pallidus (Frost) Murrill
Harrya chromapes (Frost) Halling, Nuhn, Osmundson, &
Leccinum albellum (Pk.) Sing.
Leccinum ambiguum A.H.Sm. & Thiers
Leccinum areolatum A.H.Sm. & Thiers
Leccinum atrostipitatum A.H.Sm., Thiers & Watling
Leccinum aurantiacum (Fr.) S.F. Gray
Leccinum cinnamomeum A.H.Sm., Thiers & Watling
Leccinum holopus (Rostk.) Watling
Leccinum insigne A.H. Sm., Thiers & Watling
Leccinum insolens A.H.Sm., Thiers & Watling
Leccinum proximum A.H.Sm. & Thiers
Leccinum pseudoinsigne A.H.Sm. & Thiers
Leccinum scabrum (Fr.) S.F.Gray
Leccinum scabrum var. *scabrum* (Fr.) S.F.Gray*
Leccinum snellii A.H.Sm., Thiers & Watling
Leccinum subrobustum A.H.Sm., Thiers & Watling
Leccinum subtestaceum var. *subtestaceum* A.H.Sm., Thiers & Watling
Leccinum versipelle (Fr. & Hök) Snell
Leccinum vinaceopallidum A.H.Sm., Thiers & Watling
Porphyrellus porphyrosporus (Fr. & Hök) E.-J. Gilbert
Pulveroboletus ravenelii (Berk. & M.A. Curtis) Murrill
Strobilomyces strobilaceus (Scop.) Berk.*
Tylopilus eximius (Peck) Singer
Tylopilus felleus (Bull. ex Fr.) Karst.
Tylopilus felleus var. *felleus* (Fr.) P.Karst.
Tylopilus porphyrosporus var. *porphyrosporus* (Fr.) A.H.Sm. & Thiers
Tylopilus pseudoscaber (Secr.) A.H.Sm. & Thiers
Xanthoconium affine (Peck) Singer

Family Coniophoraceae

Coniophorella puteana (Schum.:Fr.) Karst.

Family Diplocystidiaceae

Astraeus hygrometricus (Pers.) Morg.

Family Gomphidiaceae

Chroogomphus vinicolor (Pk.) Miller

Family Gyroporaceae

Gyroporus castaneus Fr.

Gyroporus cyanescens (Bull.) Quéf.

Family Hygrophoropsidaceae

Hygrophoropsis aurantiaca (Wulf. ex Fr.) Maire

Hygrophoropsis chrysodon (Batsch) Fr.*

Hygrophoropsis coccineus (Schaeff.) Fr.*

Hygrophoropsis miniatus (Fr.) Fr. *

Leucogyrophana mollusca (Fr.) Pouzar

Family Paxillaceae

Melanogaster ambiguus (Vitt.) Tul.

Paxillus atrotomentosus (Bat. ex Fr.) Fr.

Paxillus involutus (Bat. ex Fr.) Fr.

Family Rhizopogonaceae

Rhizopogon roseolus (Corda) A.H. Sm.

Rhizopogon rubescens Tul. & C. Tul.

Family Sclerodermataceae

Scleroderma citrinum Pers.
Scleroderma septentrionale Jeppson

Family Suillaceae

Fuscoboletinus glandulosus (Peck) Pomerl. & A.H.Sm.
Fuscoboletinus paluster (Peck) Pomerl. & A.H. Sm.
Fuscoboletinus spectabilis (Peck) Pomerl. & A.H.Sm.
Suillus albidipes (Pk.) Sing.
Suillus albivelatus A.H. Sm., Thiers & Miller
Suillus americanus (Peck) Snell
Suillus brevipes (Peck) Kuntze*
Suillus cavipes (Opat.) A.H.Sm. & Thiers
Suillus glandulosipes Thiers & A.H. Sm.
Suillus granulatus (L. ex Fr.) Kuntze
Suillus grevillei (Klotzsch) Singer
Suillus hirtellus (Peck) Kuntze
Suillus luteus (L.) Gray
Suillus intermedius Smith & Thiers
Suillus pictus (Peck) A.H. Sm. & Thiers
Suillus placidus (Bonord.) Singer
Suillus punctipes (Pk.) Sing.
Suillus subalutaceus (A.H.Sm. & Thiers) A.H.Sm. & Thiers
Suillus subaureus (Peck) Snell in Slipp & Snell
Suillus subluteus (Peck) Snell apud Slipp & Snell
Suillus spraguei (Berk. & Curt.) Kuntze
Suillus tomentosus (Kauff.) Sing., Snell & Dick

Order Cantharellales

Botryobasidium conspersum Erikss.
Botryobasidium subcoronatum (Höhn. & Litsch.) Donk
Botryohypochnus isabellinus (Fr.: Schweicher) Erikss.
Cantharellus aurora (Batsch) Kuyper
Cantharellus cibarius (Fr.) Quél.*
Cantharellus ignicolor Peterson
Clavulina coralloides (L.) J. Schröt.
Craterellus cornucopioides (L.) Pers.*
Craterellus foetidus A.H.Sm.
Craterellus tubaeformis (Fr.) Quél.
Dentinum repandum (Fr.) S.F.Gray
Hydnum repandum L.*
Hydnum ustale K.A. Harrison
Merulius aureus Fr.
Sistotrema brinkmanii (Bres.) Erikss.
Sistotrema eximum (H.S. Jacks.) Ryvarden & Solheim
Sistotrema raduloides (Karst.) Donk
Thanatephorus cucumeris (A.B. Frank) Donk
Tulasnella eichleriana Bres.
Tulasnella violacea (Johan-Olsen) Juel.

Order Corticiales

Family Corticiaceae

Dendrothele acerina (Pers.:Fr.) Lemke
Dendrothele dryina (Pers.) Lemke
Dendrothele griseo-cana (Bres.) Bourd. & Galz.
Dendrothele maculata (Jackson & Lemke) Lemke
Dendrothele microspora (Jackson & Lemke) Lemke
Dendrothele pachysterigmata Jackson & Lemke

Laeticorticium roseocarneum (Schwein.) Boidin

Order Dacrymycetales

Calocera cornea (Batsch:Fr.) Fr.
Dacrymyces capitatus Schwein.
Dacrymyces ellisii Coker
Dacrymyces minor Peck
Dacrymyces palmatus (Schw.) Bres.

Order Exobasidiales

Family Exobasidiaceae

Exobasidium sp

Order Gloeophyllales

Family Gloeophyllaceae

Columnocystis abietina (Pers.) Pouzar

Order Gomphales

Family Clavariadelphaceae

Clavariadelphus borealis V.L. Wells & Kempton
Clavariadelphus pistillaris (L.) Donk*
Clavariadelphus sachalinensis (Imai) Corner
Gautieria graveolens Vittad.
Gomphus clavatus (Pers.) Gray
Gomphus floccosus (Schwein.) Singer
Kavinia alboviridis (Morgan) Gilb. & Budington
Kavinia himantia (Schw.) Erikss.
Ramaria apiculata (Fr. : Fr.) Donk
Ramaria botrytis (Pers.) Ricken
Ramaria brunnea (Zeller) Corner
Ramaria xanthosperma (Pk.) Corner (cf)
Ramaria eumorpha (P. Karst.) Corner
Ramaria formosa (Fr.) Quél.*
Ramaria stricta (Pers.) Quél.

Order Geastrales

Family Geastraceae

Geastrum indicum (Klotzsch) Rauschert

Order Hymenochaetales

Atheloderma orientale Parmasto
Basidioradulum radula (Fr.) Nobles
Coltricia perennis (L.:Fr.) Murr.*
Hydnochaete olivacea (Schwein.) Banker
Hyphodontia alutaria (Burt) Erikss.
Hyphodontia arguta (Fr.) Erikss.
Hyphodontia breviseta (Karst.) Erikss.
Hyphodontia crustosa (Pers.:Fr.) Erikss.
Hyphodontia hastata (Litsch.) Erikss.
Hyphodontia pallidula (Bres.) Erikss.
Hyphodontia papillosa (Fr.) Erikss.
Hyphodontia pilaecystidiata (S. Lundell) J. Erikss.
Hyphodontia sambuci (Pers.) J. Erikss.
Hyphodontia spathulata (Schroder:Fr.) Parm.
Hyphodontia stipata (Fr.) Gilb.
Hyphodontia subalutatacea (Karst) Erikss.

Inonotus glomeratus (Peck) Murrill
Inonotus obliquus (Fr.) Pilat
Kneiffiella abieticola (Bourdot & Galzin) Jülich & Stalpers
Onnia tomentosa (Fr.) P. Karst.
Oxyporus connatus (Weinm.) Kühner
Oxyporus populinus (Schum. ex Fr.) Donk
Phellinus ferruginosus (Schrad.) Pat.
Phellinus igniarius (L.: Fr.) Quél.
Phellinus punctatus (P. Karst.) Pilát
Phellinus viticola (Schwein.: Fr.) Donk
Rickenella fibula (Bull.) Raithelh.

Order Hypocreales

Hypocrea sulfurea Schwein.

Order Hysterangiales

Hysterangium coriaceum Hesse

Order Incertae sedis

Family Incertae sedis

Phlyctibasidium polyporoideum (Berk. & M.A. Curtis) Jülich.

Order Liceida

Family Tubiferaceae

Lycoperdon marginatum Vittad.
Lycoperdon norvegicum Demoulin
Lycoperdon peckii Morgan

Order Phallales

Dictyophora duplicata (Bosc) E. Fisch.
Mutinus caninus (Huds.: Pers.) Fr.
Phallus impudicus L.*
Phallus ravenelii Berk. & M.A. Curtis

Order Polyporales

Family Boreostereaceae

Bjerkandera adusta (Willd.) P. Karst.

Family Fomitopsidaceae

Fomitopsis cajanderi (Karst.) Kotl. & Pouz.
Fomitopsis pinicola (Schwartz & Fr.) Karst.
Fomitopsis roseus Alb. & Schwein. per Fr.) P. Karst.
Fomitopsis subrosea (Weir) Bondartsev & Singer
Laetiporus huroniensis Burds. and Banik
Laetiporus sulphureus (Bull. ex Fr.) Bondarzew & Singer
Laricifomes officinalis (Vill.) Kotl. & Pouzar
Osteina obducta (Berk.) Donk
Phaeolus schweinitzii (Fr.) Pat.
Piptoporus betulinus (Fr.) Karst.

Family Ganodermataceae

Ganoderma applanatum (Pers. ex Wall.) Pat.*
Ganoderma lucidum (Curtis) P. Karst.*
Ganoderma tsugae Murr.

Family Meripilaceae

Hydnopolyporus fimbriatus (Fr.) D.A. Reid

Family Meruliaceae

Crustoderma dryinum (Berk. & Curt.) Parm.

Gloeoporus dichrous (Fr.: Fr.) Bres.
Gloeoporus pannocinctus (Romell) J. Erikss.
Gyrophanopsis polonensis (Bres.) Stalpers & P.K. Buchanan
Hyphoderma argillaceum (Bres.) Donk
Hyphoderma diffinita (Jackson) Donk
Hyphoderma guttuliferum (P. Karst.) Donk
Hyphoderma pilosum (Burt) Gilb. & Budington
Hyphoderma puberum (Fr.) Wallr.
Hyphoderma setigerum (Fr.) Donk
Hyphoderma subalutacea (Litsch.) Donk
Hyphoderma tenue (Pat.) Donk
Hypochnicium bombycinum (Sommerf.) J. Erikss.
Hypochnicium lundellii (Bourd.) Erikss.
Hypochnicium punctulatum (Cooke) Erikss.
Irpex lacteus (Fr.) Fr.
Merulius serpens Sommerf.
Merulius tremellosus Schrad.
Mycoacia fuscoatra (Fr.) Donk
Phlebia gigantea (Fr.) Donk
Phlebia phleboides (H.S. Jacks. & Dearden) Donk
Phlebia rufa (Pers.) M.P. Christ.
Resinicium bicolor (Alb. & Schw.: Fr.) Parm.
Resinicium furfuraceum (Bres.) Parm.
Scopuloides hydroides (Cooke & Masee) Hjortstam & Ryvarden
Steccherinum fimbriatum (Pers.:Fr.) Erikss.
Steccherinum ochraceum (Pers.:Fr.) S.F.

Family Phanerochaetaceae

Climacodon septentrionalis (Fr.) P. Karst.
Phanerochaete affinis (Burt.) Parm.
Phanerochaete sanguinea (Fr.) Pouzar
Phanerochaete sordida (P. Karst.) J. Erikss. & Ryvarden
Phanerochaete velutina (D.C.:Fr.) Karst.

Family Polyporaceae

Cerrena unicolor (Fr.) Murr.
Cryptoporus volvatus (Peck) Shear
Datronia mollis (Sommerf.) Donk
Fomes fomentarius (L. ex Fr.) Kicks.*
Hapalopilus nidulans (Fr.) P. Karst.
Lentinus strigosus (Schwein.) Fr.
Neolentinus lepideus (Fr.) Redhead & Ginns*
Oligoporus obductus (Berk.) Gilb. & Ryvarden
Perenniporia ohioensis (Berk.) Ryvarden
Perenniporia subacida (Peck) Donk
Polyporus admirabilis Peck
Polyporus adusta (Willd.) Fr.
Polyporus alveolaris (DC.) Bondartsev & Singer
Polyporus brumalis (Pers.) Fr.
Polyporus leptcephalus (Jacq.) Fr.,
Polyporus picipes Fr.
Polyporus squamosus (Huds.) Fr.
Polyporus umbellatus (Pers.) Fr.*
Polyporus varius Grev.
Poria spissa (Schwein.) Cooke
Poria xanthe Quél.
Trametes hirsuta (Wulf.:Fr.) Pil.
Trametes pubescens (Schumach.:Fr.) Pilát

Trametes versicolor (Fr.) Pil.
Trichaptum abietinum (Dicks.) Ryvarden
Trichaptum bifforme (Fr.) Ryv.
Tyromyces chioneus (Fr.) P. Karst.

Family Tubulicrinaceae

Tubulicrinis gracillimus (Ellis & Everh. ex D.P. Rogers & H.S. Jacks.)
Tubulicrinis subulatus (Bourdot & Galzin) Donk

Family Xenasmataceae

Xenasma minutum J. Erikss.
Xenasmatella vaga (Fr.) Stalpers

Order Pucciniales

Chrysomyxa ledicola Lagerh.
Cronartium ribicola Fischer

Order Russulales

Albatrellus caeruleoporus (Peck) Pouzar
Albatrellus confluens (Alb. & Schwein.) Kotlaba & Pouzar
Albatrellus cristatus (Fr.) Kotlaba & Pouzar
Albatrellus ovinus (Schaeff.:Fr.) Kotlaba & Pouzar
Albatrellus peckianus (Cooke) Niemela
Albatrellus subrubescens (Murr.) Pouzar
Aleurodiscus amorphus (Fr.) Schroet.
Aleurodiscus botryosus Burt.
Aleurodiscus canadensis Skolk.
Aleurodiscus cerussatus (Bres.) Hohn. & Litsch.
Aleurodiscus lividocaeruleus (Karst.) Lemke
Aleurodiscus penicillatus Burt.
Amylostereum laevigatum (Fr.) Boidin
Clavicornia pyxidata (Pers.) Donk
Gloeocystidiellum heterogeneum (Bourdot & Galzin) Donk
Gloeocystidiellum porosum (Berek. & Curt.) Donk
Hericium coralloides (Fr.) S. F. Gray*
Hericium erinaceus (Bull.) Pers.*
Hericium ramosum f. *ramosum*
Lactarius affinis Peck
Lactarius alnicola var. *pungens* A.H.Sm. in Hesler & A.H.Sm.
Lactarius aquifluus Peck
Lactarius argillacifolius Hesler & Smith
Lactarius camphoratus (Bull.) Fr.
Lactarius carbonicola A.H.Sm. in Hesler & A.H.Sm.
Lactarius chelidonium var. *chelidonium* Peck
Lactarius chrysorrhoeus Fr.
Lactarius circellatus var. *borealis* Hesler & A.H.Sm.
Lactarius deceptivus Pk.*
Lactarius deliciosus (L.) Gray*
Lactarius fumosus var. *fumosoides* (A.H.Sm. & Hesler) Hesler & A.H.Sm.
Lactarius gerardii var. *gerardii* Peck
Lactarius glutinopallens F.H.Moller & J.E.Lange
Lactarius glyciosmus (Fr.) Fr.
Lactarius griseus Peck
Lactarius hepaticus Plowr.
Lactarius hibbardae Peck
Lactarius indigo (Schwein.) Fr.*
Lactarius lignyotus Fr.*
Lactarius lignyotus var. *canadensis* A.H.Sm. & Hesler

Lactarius mackinawensis Hesler & A.H.Sm.
Lactarius mucidus Burl.
Lactarius nancyae Hesler & A.H.Sm.
Lactarius oculatus (Peck) Burl.
Lactarius paradoxus Beard. & Burl.
Lactarius piperatus (L.) Pers.*
Lactarius proximellus Beardslee & Burl.
Lactarius pyrogalus (Fr.) Fr.
Lactarius repraesentaneus Britzelm.
Lactarius resimus var. *regalis* Peck
Lactarius rimosellus Peck
Lactarius rufus (Fr.) Fr.
Lactarius salicis-reticulatae Kühner
Lactarius scrobiculatus var. *canadensis* (A.H.Sm.) Hesler & A.H.Sm.
Lactarius sordidus Peck
Lactarius subgerardii A. H. Sm . & Hesler
Lactarius subpalustris Hesler & A.H.Sm.
Lactarius subpurpureus Peck
Lactarius thynos A.H. Sm.
Lactarius torminosus (Fr.) S.F. Gray*
Lactarius trivialis (Fr.) Fr.
Lactarius uvidus (Fr.) Fr.
Lactarius vellereus (Fr.) Fries
Lactarius vietus (Fr.) Fr.
Lactarius vinaceorufescens Smith
Lactarius volemus (Fr.) Fr.*
Lactarius zonarius (Secr.) Fr.
Laurilia sulcata (Burt) Pouzar
Lentinellus cochleatus (Pers.:Fr.) Karst.
Lentinellus ursinus (Fr.) Kühn.
Lentinellus vulpinus (Fr.) Kuhner & Maire
Leucogaster rubescens Zeller & C.W.Dodge
Peniophora flavoferruginea (P. Karst.) Litsch.
Peniophora piceina Overh.
Peniophora violaceo-livida (Sommerf.) Masee
Russula atropurpurea (Krombh.) Britzelm.*
Russula brevipes Pk.
Russula claroflava Groves
Russula compacta Frost
Russula decolorans Fr.*
Russula emetica (Schaeff. ex Fr.) S.F. Gray.*
Russula flava Lindl.*
Russula foetens (Pers.) Fr.*
Russula fragilis (Pers. ex Fr.) Fr.*
Russula grata Britzelm.
Russula nigricans Fr.*
Russula nobilis Velen.
Russula ochroleuroides Kauff.
Russula olivacea (Schaeff.) Fr.*
Russula paludosa Britz.
Russula redolens Burl.
Russula roseipes Secr. ex Bres.*
Russula variata Banning
Russula ventricosipes Peck
Russula virescens (Schaeff.) Fr.*
Russula xerampelina Fr.

Scytinostroma eurasiaticogalactinum Boidin & Lanq.
Stereum hirsutum (Wild.:Fr.) S.F.
Xylobolus subpileatus (Berk. & M.A. Curtis) Boidin

Order Sebaciales

Sebacina calcea (Pers.) Bres.
Sebacina cinerea Bres.

Order Thelephorales

Bankera fuligineoalba (J.C. Schmidt) Coker & Beers ex Pouzar
Boletopsis subsquamosa (L. ex Fr.) Kotl. & Pouz.
Hydnellum aurantiacum (Fr.) Karst.
Hydnellum caeruleum (Horn. ex Pers.) Karst.
Hydnellum concrescens (Pers.) Banker
Hydnellum pineticola Harris.
Hydnellum scrobiculatum (Fr. ex Secr.) Karst.
Hydnellum suaveolens (Scop. ex Fr.) Karst.
Phellodon tomentosus (L.) Banker
Sarcodon imbricatus (L. ex Fr.) Karst.
Sarcodon squamosus (Schaeff.) Quél.*
Sarcodon underwoodii Banker
Thelephora terrestris Ehrenb:Fr.
Tomentella crinalis (Fr.) M.J. Larsen
Tomentella ferruginea (Pers.) Pat.
Tomentella feruginella Bourd. & Galz.
Tomentella lilacinogrisea Wakef.

Order Trechisporales

Family Hydrodontaceae

Luellia recondita (H.S. Jacks.) K.H. Larss. & Hjortstam
Sistotremastrum suecicum Litsch. ex J. Erikss.
Subulicystidium longisporum (Pat.) Parmasto
Trechispora cohaerens (Schwein.) Jülich & Stalpers
Trechispora farinacea (Pers.:Fr.) Liberta
Trechispora microspora (Karst.) Liberta
Trechispora mollusca (Pers.:Fr.) Liberta
Trechispora praefocata (Bourd. & Galz.) Liberta
Trechispora sphaerospora (Maire) Parmasto
Trechispora submicrospora (Litsch.) Liberta

Order Tremellales

Tremella foliacea Pers.:Fr.
Tremella lutescens Pers.*

LICHENS

The placement of lichens in a phylogenetic arrangement of organisms is not simple or obvious. While they exist as ecologically independent and recognizable entities, they are, in fact, an association between a fungus and a single-celled photosynthetic autotroph. Therefore, they represent a convergence of two, very different, evolutionary lineages. Further, unlike a true hybrid organism, the two genetic entities remain discreet, and reproductive units of lichens carry both (and actually constitute a form of vegetative expansion or modular growth); sexual reproduction of either party occurs separately, and the lichen association must be re-established subsequently. Finally, lichens may be formed by fungi of both the Ascomycota and (much more rarely) the Basidiomycota, in association with photosynthetic partners which may be either green algae (Kingdom Plantae) or cyanobacteria (Kingdom Monera, or

Eubacteria), or occasionally both. The algal or cyanobacterial species involved generally exist also as independent cells, while the fungal partners are found only in the lichen relationship (but some lichen-forming species of fungi can associate with more than one algal species resulting in different lichen forms, even though the fungal partner gives shape to the 'body' of the lichen, and they are consequently given different names). The upshot is that, although distinct lichen forms are classified as species (and into genera, families, etc.), and I have followed that form for consistency with tradition and with the rest of this inventory, lichen 'species' must be regarded as 'form species' rather than as phylogenetic units. I have generally followed the Order and Family assignments and sequence of Brodo, et al. (2001)

This list of lichens is drawn entirely from the work of Dr. William Manierre (1999, 2001, 2002); Manierre notes a handful of earlier species records from the Hurons, but the vast majority of records documented here are his own observations. The list is likely to be relatively complete for the foliose or fruticose types; only a few of the difficult, but diverse, crustose forms are included. The current list, including some distinct forms that remain unassigned to species, includes 327 species in 91 genera.

Phylum ASCOMYCOTA

Class Euascomycetes

Order Leotiales

Family Baeomycetaceae

Baeomyces rufus (Hudson) Repent.
Icmadophila ericetorum (L.) Zahlbr.

Order Ostropales

Family Graphidaceae

Graphis scripta (L.) Ach.

Family Stictidaceae

Conotrema urceolatum (Ach.) Tuck.

Family Thelotremataceae

Diploschistes scruposus (Schreber) Norman
Thelotrema lepadinum (Ach.) Ach.

Order Caliciales

Family Caliciaceae

Calicium parvum Tibell
Calicium salicinum Pers.
Cyphelium lucidum (Th.Fr.) Th.Fr.
Cyphelium tigillare (Ach.) Ach.

Family Coniocybaceae

Chaenotheca chrysocephala (Turner ex Ach.) Th. Fr.

Family Mycocaliciaceae

Mycocalicium subtile (Pers.) Szat.

Order Lecanorales

Family Acarosporaceae

Acarospora fuscata (Schrader) Arnold
Acarospora glaucocarpa (Ach.) Körber
Acarospora smaragdula (Wahlenb.) A. Massal.

Family Bacidiaceae

Bacidia bagliettoana (Massal. & De Not.) Jatta
Bacidia schweinitzii (Fr. ex Michener) A. Schneider (Eckman 1995)
Biatora sphaeroides (Dickson) Körber

Family Biatoraceae

Biatora vernalis (L.) Fr.

Family Candelariaceae

Candelaria concolor (Dickson) Stein
Candelaria fibrosa (Fr.) Müll. Arg.
Candelariella aurella (Hoffm.) Zahlbr.
Candelariella efflorescens R.C. Harris & W.R. Buck
Candelariella vitellina (Hoffm.) Müll. Arg.
Candelariella xanthostigma (Ach.) Lettau

Family Catillariaceae

Arthrosporum populorum A. Massal.

Family Cladoniaceae

Cladina arbuscula (Wallr.) Hale & Culb.
Cladina mitis (Sandst.) Hustich
Cladina rangiferina (L.) Nyl.
Cladina stellaris (Opiz) Brodo
Cladonia acuminata (Ach.) Norrlin
Cladonia acuminata var. *acuminata* (Huovinen *et al* 1989)
Cladonia bacilliformis (Nyl.) Glück
Cladonia botrytes (K. Hagen) Willd.
Cladonia cariosa (Ach.) Sprengel
Cladonia carneola (Fr.) Fr.
Cladonia cenotea (Ach.) Schaerer
Cladonia cervicornis subsp. *verticillata* (Hoffm.) Ahti
Cladonia chlorophaea (Flörke *ex* sommerf.) Sprengel
Cladonia coccifera (L.) Willd.
Cladonia coniocraea (Flörke) Sprengel
Cladonia conista A. Evans (Ahti 1993)
Cladonia cornuta (L.) Hoffm. subsp. *cornuta*
Cladonia crispata (Ach.) Flotow var. *crispata*
Cladonia cristatella forma *ramosa* Tuck.
Cladonia cristatella Tuck.
Cladonia cristatella forma *squamosissima* Robb.
Cladonia decorticata (Flörke) Sprengel
Cladonia deformis (L.) Hoffm.
Cladonia digitata (L.) Hoffm.)
Cladonia ecmocyna Leighton subsp. *ecmocyna*
Cladonia farinacea (Vainio) A. Evans
Cladonia fimbriata (L.) Fr.
Cladonia floerkeana (Fr.) Flörke
Cladonia furcata (Hudson) Schrader
Cladonia gracilis (L.) Willd. subsp. *gracilis*
Cladonia grayi G. Merr. *ex* Sandst.
Cladonia humilis (With.) J.R. Laundon
Cladonia macilenta var. *bacillaris* (Genth) Schaerer
Cladonia multiformis G. Merr.
Cladonia ochrochlora Flörke
Cladonia peziziformis (With.) J.R. Laundon
Cladonia phyllophora Hoffm.
Cladonia pleurota (Flörke) Schaerer
Cladonia pocillum (Ach.) Grognot (Ahti 1993)
Cladonia polycarpoides Nyl.
Cladonia pyxidata (L.) Hoffm.
Cladonia ramulosa (With.) J.R. Laundon
Cladonia rei Schaerer
Cladonia robbinsii A. Evans
Cladonia scabriuscula (Delise) Nyl.
Cladonia sobolescens Nyl. *ex* Vainio
Cladonia squamosa Hoffm. (Ahti 1993)

Cladonia sulphurina (Michaux) Fr.
Cladonia symphylicarpa (Flörke) Fr.
Cladonia turgida Hoffm.
Cladonia uncialis (L.) F.H. Wigg.

Family Collemataceae

Collema conglomeratum Hoffm.
Collema furfuraceum (Arnold) Du Rietz
Collema polycarpon Hoffm.
Collema pulchellum Ach.
Collema subflaccidum Degel.
Leptogium burnetiae C.W. Dodge
Leptogium corticola (Taylor) Tuck.
Leptogium cyanescens (Rabenh.) Körber
Leptogium milligranum Sierk
Leptogium saturninum (Dickson) Nyl.

Family Haematommataceae

Loxospora elatina (Ach.) A. Massal.
Loxospora pustulata (Brodo & Culb.) R.C. Harris

Family Hymeneliaceae

Aspicilia caesiocinerea (Nyl. ex Malbr.) Arnold
Aspicilia cinerea (L.) Körber

Family Lecanoraceae

Lecanora albella var. *rubescens* (Imshaug & Brodo) Lumbsch
Lecanora allophana Nyl.
Lecanora argopholis (Ach.) Ach.
Lecanora caesiorubella Ach. subsp. *Caesiorubella*
Lecanora carpinea (L.) Vainio
Lecanora cateilea (Ach.) A.Massal.
Lecanora cenisia Ach.
Lecanora chlarotera Nyl.
Lecanora chlorophaeodes Nyl.
Lecanora conizaeoides Nyl. ex Crombi
Lecanora crenulata Hook.
Lecanora dispersa (Pers.) Sommerf.
Lecanora glabrata (Ach.) Malme
Lecanora impudens Degel.
Lecanora muralis (Schreber) Rabenh.
Lecanora polytropa (Hoffm.) Rabenh.
Lecanora pulicaris (Pers.) Ach.
Lecanora rugosella Zahlbr.
Lecanora thysanophora (Ach.) R. Harris, ined.
Lecanora varia (Hoffm.) Ach.
Lecidella stigmatea (Ach.) Hertel & Leuckert
Lecanora strobilina (Sprengel) Kieffer
Lecanora symmicta (Ach.) Ach.
Rhizoplaca chrysoleuca (Sm.) Zopf
Rhizoplaca melanophthalma (DC.) Leuckert & Poelt
Rhizoplaca subdiscrepans (Nyl.) R. Sant.
Scoliosporum chlorococcum (Stenh.) Vezda

Family Lecideaceae

Hypocenomyce friesii (Ach.) P. James & Gotth.
Hypocenomyce scalaris (Ach.) Choisy
Lecidea tessellata Flörke

Family Lobariaceae

Lobaria pulmonaria (L.) Hoffm.
Lobaria quercizans Michaux

Family Megasporaceae

Megaspora verrucosa (Ach.) Hafellner & V. Wirth

Family Mycoblastaceae

Mycoblastus sanguinarius (L.) Norman

Family Nephromataceae

Nephroma bellum (Sprengel) Tuck

Nephroma helveticum Ach. subsp. *helveticum*

Nephroma parile (Ach.) Ach.

Nephroma resupinatum (L.) Ach.

Family Pannariaceae

Fuscopannaria leucophaea (Vahl) P.M. Jorg.

Fuscopannaria leucosticta (Tuck.) P.M. Jorg.

Leproloma membranaceum (Dickson) Vainio

Leproloma vouauxii (Hue) J.R. Laundon

Family Parmeliaceae

Ahtiana aurescens (Tuck.) Thell & Randlane

Allocetraria oakesiana (Tuck.) Randland & Thell

Bryoria capillaris (Ach.) Brodo & D. Hawksw.

Bryoria furcellata (Fr.) Brodo & D. Hawksw.

Bryoria trichodes (Michaux) Brodo & D. Hawksw. subsp. *trichodes*

Cetraria arenaria Kärnefelt

Cetrelia chicitae (Culb.) Culb. & C. Culb.

Cetrelia olivetorum (Nyl.) Culb. & C. Culb.

Evernia mesomorpha Nyl.

Evernia prunastre (L.) Ach.

Flavoparmelia baltimorensis (Gyelnik & Főriss) Hale

Flavoparmelia caperata (L.) Hale

Flavopunctelia flaventior (Stirton) Hale

Flavopunctelia soledica (Nyl.) Hale

Hypogymnia physodes (L.) Nyl.

Hypogymnia tubulosa (Schaerer) Hav.

Hypogymnia vittata (Ach.) Parrique

Imshaugia aleurites (Ach.) S.F. Meyer

Imshaugia placorodia (Ach.) S.F. Meyer

Melanelia disjuncta (Erichsen) Essl.

Melanelia elegantula (Zahlbr.) Essl.

Melanelia exasperata (De Not.) Essl.

Melanelia exasperatula (Nyl.) Essl.

Melanelia fuliginosa (Fr. Ex Duby) Essl.

Melanelia olivacea (L.) Essl.

Melanelia panniformis (Nyl.) Essl.

Melanelia septentrionalis (Lynge) Essl.

Melanelia soledata (Ach.) Goward & Ahti

Melanelia subargentifera (Nyl.) Essl.

Melanelia subaurifera (Nyl.) Essl.

Melanelia subolivacea (Nyl.) Essl.

Myelochroa aurulenta (Tuck.) Elix & Hale

Myelochroa galbina (Ach.) Elix & Hale

Parmelia saxatilis (L.) Ach.

Parmelia squarrosa Hale

Parmelia sulcata Taylor

Parmeliopsis ambigua (Wulfen) Nyl.

Platismatia tuckermanii (Oakes) Culb. & C. Culb.

Pseudevernia consocians (Vainio) Hale & Culb.

Punctelia bolliana (Müll. Arg.) Krog

Punctelia hypoleucites (Nyl.) Krog

Punctelia rudecta (Ach.) Krog
Punctelia subrudecta (Nyl.) Krog
Tuckermannopsis americana (Sprengel) Hale
Tuckermannopsis ciliaris (Ach.) Gyelnik
Tuckermannopsis fendleri (Nyl.) Hale
Tuckermannopsis orbata (Nyl.) M.J. Lai
Tuckermannopsis sepincola (Ehrh.) Hale
Usnea cavernosa Tuck.
Usnea ceratina Ach.
Usnea hirta (L.) F.H. Wigg.
Usnea lapponica Vainio
Usnea longissima Ach.
Usnea rubicunda Stirton
Usnea subfloridana Stirton
Vulpicida pinastri (Scop.) J.-E. Mattsson & M.J. Lai
Xanthoparmelia conspersa (Ehrh. ex Ach.) Hale
Xanthoparmelia cumberlandia (Gyelnik) Hale (two distinct forms)
Xanthoparmelia lineola (E.C. Berry) Hale
Xanthoparmelia plittii (Gyelnik) Hale
Xanthoparmelia somloënsis (Gyelnik) Hale

Family Peltigeraceae

Peltigera aphthosa (L.) Willd.
Peltigera canina (L.) Willd.
Peltigera degenii Gyelnik
Peltigera didactyla (With.) J.R. Laundon
Peltigera elisabethae Gyelnik
Peltigera evansiana Gyelnik
Peltigera lepidophora (Vaino) Bitter
Peltigera leucophlebia (Nyl.) Gyelnik
Peltigera malacea (Ach.) Funck
Peltigera membranacea (Ach.) Nyl.
Peltigera polydactylon (Necker) Hoffm. (Vitikainen 1994)
Peltigera praetextata (Flörke ex Sommerf.) Zopf
Peltigera rufescens (Weiss) Humb.
Solorina spongiosa (Ach.) Anzi

Family Pertusariaceae

Ochrolechia arborea (Kreyer) Almb.
Ochrolechia trochophora (Vaino) Oshio var. *trochophora*
Pertusaria alpina Hepp ex Ahles
Pertusaria amara (Ach.) Nyl.
Pertusaria consocians Dibben
Pertusaria hymenea (Ach.) Schaerer
Pertusaria macounii (Lamb) Dibben
Pertusaria multipunctoides Dibben
Pertusaria ophthalmiza (Nyl.) Nyl.
Pertusaria rubefacta Erichsen
Pertusaria sommerfeltii (Flörke ex Sommerf.) Fr.
Pertusaria trachythallina Erichsen
Pertusaria velata (Turner) Nyl.
an unidentified species of *Pertusaria*

Family Physciaceae

Amandinea punctata (Hoffm.) Coppins & Scheid.
Anaptychia palmulata (Michaux) Vainio
Buellia arnoldii Servit & Nadv.
Buellia disciformis (Fr.) Mudd
Buellia schaeereri De Not.

Buellia stillingiana J. Steiner
Dimelaena oreina (Ach.) Norman
Heterodermia hypoleuca (Muhl.) Trevisan
Heterodermia speciosa (Wulfen) Trevisan
Phaeophyscia adiastrata (Essl.) Essl.
Phaeophyscia cernohorskyi (Nádv.) Essl.
Phaeophyscia erythrocardia (Tuck.) Essl.
Phaeophyscia hirtella Essl.
Phaeophyscia hispidula (Ach.) Essl.
Phaeophyscia orbicularis (Necker) Moberg
Phaeophyscia pusilloides (Zahlbr.) Essl.
Phaeophyscia rubropulchra (Degel.) Essl.
Physcia adscendens (Fr.) H. Olivier
Physcia aipolia (Ehrh. ex Humb.) Fürnr. var. *aipolia*
Physcia caesia (Hoffm.) Fürnr.
Physcia dubia (Hoffm.) Lettau
Physcia milligrana Degel.
Physcia phaea (Tuck.) J.W. Thomson
Physcia stellaris (L.) Nyl.
Physcia subtilis Degel.
Physcia tenella (Scop.) DC.
Physciella chloantha (Ach.) Essl.
Physconia detersa (Nyl.) Poelt
Physconia enteroxantha (Nyl.) Poelt
Physconia leucoleiptes (Tuck.) Essl.
Physconia muscigena (Ach.) Poelt
Physconia perisidiosa (Erichsen) Moberg
Pyxine soredata (Ach.) Mont.
Rinodina archaea (Ach.) Arnold
Rinodina dakotensis H. Magn.S

Family Placynthiaceae

Placynthium nigrum (Hudson) Gray
Polychidium muscicola (Sw.) Gray

Family Porpidiaceae

Mycobilimbia sabuletorum (Schreber) Hafellner
Porpidia crustulata (Ach.) Hertel & Knoph

Family Psoraceae

Psora globifera (Ach.) A.Massal.

Family Ramalinaceae

Ramalina americana Hale
Ramalina calicaris (L.) Fr.
Ramalina dilacerata (Hoffm.) Hoffm.
Ramalina farinacea (L.) Ach.
Ramalina intermedia (Delise ex Nyl.) Nyl.
Ramalina obtusata (Arnold) Bitter
Ramalina pollinaria (Westr.) Ach.

Family Rhizocarpaceae

Rhizocarpon disporum (Nägeli ex Hepp) Müll. Arg.
Rhizocarpon geminatum Körber
Rhizocarpon geographicum (L.) DC.
Rhizocarpon grande (Flörke ex Flotow) Arnold
Rhizocarpon lecanorinum Anders
Rhizocarpon obscuratum (Ach.) A.Massal.
Rhizocarpon unnamed species described in Wetmore

Family Stereocaulaceae

Stereocaulon condensatum Hoffm.

Stereocaulon dactylophyllum Flörke
Stereocaulon paschale (L.) Hoffm.
Stereocaulon saxatile H. Magn.
Stereocaulon subcoralloides (Nyl.) Nyl.
Stereocaulon tomentosum Fr.

Family Teloschistaceae

Caloplaca arenaria (Pers.) Müll. Arg.
Caloplaca cerina (Hedwig) Th. Fr.
Caloplaca cetrina (Hoffm.) Th. Fr.
Caloplaca flavorubescens (Hudson) J.R. Laundon
Caloplaca flavovirescens (Wulfen) Dalla Torre & Sarnth.
Caloplaca fraudans (Th. Fr.) H. Olivier
Caloplaca holocarpa (Hoffm. ex ach.) M. Wade
Caloplaca invadens Lynge
Caloplaca microphyllina (Tuck.) Hasse
Caloplaca oxfordensis Fink
Caloplaca saxicola (Hoffm.) Nordin
Xanthoria candelaria (L.) Th. Fr.
Xanthoria elegans (Link) Th. Fr.
Xanthoria fallax (Hepp) Arnold var. *fallax*
Xanthoria polycarpa (Hoffm.) Rieber

Family Trapeliaceae

Trapeliopsis flexuosa (Fr.) Coppins & P. James
Trapeliopsis granulosa (Hoffm.) Lumbsch

Family Umbilicariaceae

Lasallia papulosa (Ach.) Llano
Umbilicaria americana Poelt & T. Nash (Poelt & Nash 1993)
Umbilicaria deusta (L.) Baumg.
Umbilicaria hyperborea (Ach.) Hoffm. var. *hyperborea*
Umbilicaria mammulata (Ach.) Tuck.
Umbilicaria muehlenbergii (Ach.) Tuck.
Umbilicaria torrefacta (Lightf.) Schrader
Umbilicaria vellea (L.) Hoffm.)
Umbilicaria virginis Schaerer

Order Arthoniales

Family Arthoniaceae

Arthonia cytisi A. Massal.
Arthonia diffusa Nyl.
Arthonia dispersa (Schrader) Nyl.
Arthonia radiata (Pers.) Ach.

Family Chrysothricaceae

Chrysothrix candelaris (L.) J.R. Laundon
Chrysothrix chlorina (Ach.) J.R. Laundon

Family Roccellaceae

Opegrapha varia Pers.

Order Dothideales

Family Monoblastiaceae

Acrocordia megalospora (Fink) R.C. Harris

Order Verrucariales

Family Verrucariaceae

Dermatocarpon luridum (With.) J.R. Laundon
Dermatocarpon miniatum (L.) W. Mann
Dermatocarpon moulinsii (Mont.) Zahlbr.

Staurothele areolata (Ach.) Lettau
Staurothele fissa (Taylor) Zwackh.
an unidentified species of *Verrucaria*

Non-fertile, uncertain position

Lepraria caeioalba (de Lesd.) J.R.Laundon
Lepraria incana (L.) Ach.
Lepraria lobificans Nyl.
Lepraria neglecta (Nyl.) Erichsen

KINGDOM ANIMALIA

The animal kingdom includes a number of 'basal' groups that are entirely aquatic and mostly marine. Of these groups, only the sponges (Phylum Porifera) and coelenterates (Phylum Cnidaria) are represented in the fresh waters of the Huron Mt. region. The large clade of the Bilateria – the bilaterally symmetrical animals – is further divided into the Protostomia and Deuterostomia. Protostomes include some very important groups – the Arthropoda and the Mollusca – that are well-represented in the Hurons. Other groups that are certainly present in some diversity, but are poorly documented include the various 'worms' (Platyhelminthes, Annelida, Nematoda), Tardigrada, and Rotifera. Other than the arthropods, and some other groups as noted, most of the species in these groups are documented by Yanoviak and McCafferty (1996); their listings are prefaced here by a "#". Taxonomy is checked against ITIS.

Phylum PORIFERA

Class Demospongiae

Order Haploscleridae

Family Spongillidae

#*Spongilla lacustris* (Linnaeus)

Phylum CNIDARIA

Class Hydrozoa

Order Hyroida

Family Hydridae

#*Hydra* sp.

Phylum PLATYHELMINTHES

Class Turbellaria

Order Tricladida

Family Planariidae

#*Dugesia tigrina* Girard
#*Phagocata* sp.

Phylum NEMATOMORPHA

Class Gordioida

Order Gordea
Family Gordiidae
#*Gordius* sp.

Phylum ANNELIDA
Subphylum CLITELLATA

A few annelids were reported by Yanoviak and McCafferty (1999), but other records are from unpublished reports to the Foundation, including: Kopenski (1963) for leaches (Subclass Hirudinea), Lilleskov et al. (2005) and Wetzel (2013) for earthworms (terrestrial Oligochaeta), and Wetzel (2010-2014) for aquatic oligochaetes and earthworms. This phylum is certainly represented by many more species. Taxonomy is checked against ITIS and family and Order assignments have changed from Kopenski's listing, but only one binomial is updated: *Dina fervida* is reassigned to *Mooreobdella*.

Class Clitellata
Subclass Hirudinea

Order Rhynchobdellida
Family Glossiphoniidae
Glossiphonia complanata (Linnaeus)
Helobdella stagnalis (Linnaeus)
Placobdella hollensis (Whitman)

Order Arhynchobdellida
Family Haemopidae
Haemopsis grandis Verrill
Haemopsis marmorata (Say)
Family Erpobdellidae
#*Dina parva* Moore
Mooreobdella fervida Verrill
Erpobdella punctata (Leidy)
Nephelopsis obscura Verrill

Subclass Oligochaeta
Order Enchytraeida
Family Enchytraidae
Cognettia sp.
Enchytraeus sp.
Henlea sp.
Marionina sp.

Order Lumbriculida
Family Lumbriculidae
Eclipidrilus lacustris (Verrill)
Eclipidrilus sp. (immature)
#*Lumbriculus variegatus* (Müller)
Lumbriculus sp. (immature)

Order Opisthopora
Family Lumbricidae (earthworms)
Most of the earthworms present in northeastern North America are non-native, accidentally introduced, primarily from Europe. Their spread through forest ecosystems is causing substantial changes in soil properties and potentially in biological communities. *Sparganophilus meansi* is native to North America, but known from only three localities; this is the first record for Michigan.
Allolobophora chlorotica (Savigny)
Aporrectodea caliginosa Seigny

Aporrectodea rosea (Savigny)
Aporrectodea longa (Ude)
Aporrectodea trapezoides (Dugès)
Aporrectodea tuberculata (Eisen)
Dendrobaena octaedra (Savigny)
Dendrodrilus rubidus (Savigny)
Eiseniella tetraedra (Savigny)
Lumbricus rubellus Hoffmeister
Lumbricus terrestris L.
Octolasion cyaneum (Savigny)
Octolasion tyrtaeum (Savigny)

Family Sparganophilidae

Sparganophilus meansi Reynolds

Order Tubificida

Family Naididae

Subfamily Naidinae

Amphichaeta americana Chen
Arcteonais lomondi (Martin)
Chaetogaster diaphanus (Gruithuisen)
Chaetogaster diastrophus (Gruithuisen)
Dero digitata (Müller)
Dero nivea Aiyer
Nais behningi Michaelsen
Nais communis Piguet
Nais pardalis Piguet
Nais pseudobtusa Piguet
Nais simplex Piguet
Nais variabilis Piguet
Ophidonais serpentine (Müller)
Piguetiella michiganensis Hiltunen
Ripistes parasita (Schmidt)
Slavina appendiculata (d'Udekem)
Specaria josinae (Vejdovský)
Stylaria lacustris (Linnaeus)
Uncinaiis uncinata (Ørsted)
Vejdovskyella comata (Vejdovský)

Subfamily Pristininae

Pristina leidyi Smith
Pristina osborni (Walton)
Pristina sp.

Subfamily Rhyacodrilinae

Rhyacodrilus cf. sodalis (Eisen)
Rhyacodrilus cf. subterraneus Hrabě

Subfamily Tubificinae

Aulodrilus pigueti Kowalewski
Ilyodrilus templetoni (Southern)
Limnodrilus hoffmeisteri Claparède
Spirosperma ferox Eisen

Phylum MOLLUSCA

This list is drawn primarily from unpublished reports to the Huron Mt. Wildlife Foundation. Henry van der Schalie, of the University of Michigan, surveyed molluscs at the Huron Mt. Club in 1958; species recorded in that survey are denoted by a “[V]” following the name. I have been unable to find modern references to the following species from van der Schalie’s list: *Helisoma antrosum*, *Gyraulus hirsutus*, *Ferrissia simulans*, *Anodonta marginata*. These names may have been changed to or subsumed in names already on the list; for now they are not included in the

following tally.

Additional species are from reports by J. B. Burch, also of the University of Michigan, in 1965 and 1989, and by Eric North in 2008. Burch records aquatic species by locality, and this information is coded in letters following species names as follows: H=Howe L., MP= Middle Pine L., I=Ives L., R=Rush L., L=Lily Pond, A=Ann L., Ca=Canyon L., M=Mountain L., Co=Connor L., CB=Cranberry Bog. A "T" following the name indicates a terrestrial species. Four additional stream species are from Yanoviak and McCafferty (1996), as indicated by "#". An unpublished report by North (2007) adds four additional terrestrial gastropods.

Planorbella multivolvis calls for special mention. The species was first described by Case in 1847 (then named *Planorbis multivolvis*) from "the northern part of Michigan," but precise provenance was not given. Walker (1907, 1929) discounts other collections identified as *P. multivolvis*, except for collections from Howe Lake in 1906. Walker further argues that the original collections were probably from the same locale, and that the species may well be strictly endemic to Howe Lake. *P. multivolvis* has not been collected since; van der Schalie (1958) says "we also tried to find *Planorbis multivolvis* Case which has eluded Bryant Walker, Lloyd Smith, Dick Manville, Emile Abdel-Malek... Although I walked completely around the Howe Lake shore in my waders, there was not a sign of this species that was collected about 1847. ... Howe Lake evidently has changed in the last hundred years. The shell fauna evidently is no longer what it formerly was." The taxon is Classified as endangered by the Michigan Department of Natural Resources, and described in various references as 'probably extinct'. There is some debate as to the taxonomic legitimacy of the species (it is sometimes considered a variant of *P. campanulata*), but, because of its special status at the Huron Mt. Club, I have listed it here.

In total, 63 molluscan taxa are listed. Thirteen are bivalves. Of the gastropods, 23 are terrestrial in habit. Several genera are taxonomically ambiguous, and include collections that are not identified to species. Where these appear to be distinct taxa, I have retained them in the list and count; further work may sub-divide these into additional taxa.

Class Bivalvia

Subclass Heterodonta

Order Veneroida

Family Pisidiidae

Musculium securis (Prime) H,A,Ca
Musculium sp CB
Pisidium sp Co,H,A,Ca,M
#*Sphaerium nitidum* Westerlund
Sphaerium rhomboideum (Say) MP,Ca
#*Sphaerium simile* (Say)
Sphaerium sp.,MP,R,M

Subclass Palaeoheterodonta

Order Unionida

Family Unionidae

Anodonta grandis Say,MP,I,R,M
Anodontoides ferussacianus (I. Lea) [V]
Elliptio complanata (Lightfoot) MP
Lampsilis siliquoidea (Barnes) MP
Lasmigona compressa (I. Lea) [V]
Pyganodon lacustris (Lea) I,H,R,Ca

Class Gastropoda

Order Architaenioglossa

Family Viviparidae

Campeloma cf *decisum* (Say) [V]
Campeloma sp MP

Order Basommatophora

Family Ancylidae

Ferrissia parallela (Haldeman) H,R,L,Ca

#*Ferrissia rivularis* (Say)

Ferrissia sp CB

Family Carychiidae

Carychium exile Lea L

Family Lymnaeidae

Fossaria galbana (Say) R

Fossaria humilis (Say) [V]

Fossaria parva (I. Lea) [V]

Lymnaea stagnalis (Linnaeus) MP

Pseudosuccinea columella (Say) A

Stagnicola exilis (I. Lea) MP

Family Physidae

Physella ancillaria (Say) [V]

Physella cf. *gyrina* (Say) MP

Physella sayi Tappan, Co, CB, H, R, L, A

Physella sp Ca, M

Family Planorbidae

Gyraulus cf. *deflectus* Say, A

Gyraulus circumstriatus (Tryon) R

Gyraulus deflectus (Say) H

Gyraulus parvus (Say) Co, H, R, M

Helisoma anceps (Menke) Co, MP, H, R, A, Ca, M

#*Menetus* sp

Planorbella campanulata (Say) CB, MP, H, R, M

Planorbella corpulenta (Say) [V]

Planorbella multivolvis (Case) H

Planorbella trivolvis (Say) CB, H, R

Promenetus exacuus (Say) MP, H, R, A, Ca, M

Order Neotaenioglossa

Family Hydrobiidae

Amnicola limosus (Say) Co, MP, R, A, M

Order Stylommatophora

Family Cochlicopidae

Cochlicopa lubrica (Muller) [V] T

Family Discidae

Anguispira alternata (Say) [V] T

Discus catskillensis (Pilsbry) [V] T

Family Helicarionidae

Euconulus fulvus (Muller) T

Helicodiscus parallelus (Say) [V] T

Family Limacidae

Deroceras laeve (Muller) [V] T

Deroceras reticulatum (Muller) [V] T

Family Philomycidae

Pallifera hemphilli (A. Binney) T

Family Polygyridae

Euchemotrema fraternum (Say) [V] T

Triodopsis albolabris (Say) [V] T

Family Punctidae

Punctum minutissimum (Lea) T

Family Pupillidae

Columella simplex (Gould) T
Gastrocopta pentodon (Say) T
Vertigo sp T

Family Strobilopsidae

Strobilops labyrinthicus (Say) T

Family Valloniidae

Zoogenetes harpa (Say) T

Family Zonitidae

Glyphalinia indentata (Say) T
Nesovitrea binneyana (E.S. Morse) T
Paravitrea multidentata (A. Binney) T
Striatura exigua (Stimpson) T
Striatura milium (E. S. Morse) T
Zonitoides arboreus (Say) [V] T

Phylum ARTHROPODA

Subphylum CRUSTACEA

Crustacea listings are derived from miscellaneous reports including: Terrestrial Isopoda (suborder Oniscidia), or ‘woodlice’, the only crustaceans that have been truly successful in invading the land, recorded by Jennifer Stoyenoff (2002, unpublished report); a number of planktonic Cladocera and Copepoda from Ives Lake by Ashley Burtner (unpublished report 2016).

Class Branchipoda

Order Cladocera

Family Bosminidae

Bosmina longirostris (O. F. Müller)
Diaphanosoma birgei Korinek

Family Daphniidae

Daphnia galeata mendotae G.O. Sars

Family Holopedidae

Holopedium gibberum Zaddach

Family Polyphemidae

Polyphemus pediculus O. F. Müller

Class Malacostraca

Superorder Eucarida

Order Decapoda

Family Cambaridae (crayfish)

#*Orconectes propinquus* (Girard)

Superorder Peracarida

Order Amphipoda

Family Gammaridae

#*Gammarus pseudolimnaeus* Hynes and Harper

Family Hyalellidae

#*Hyalella azteca* Saussure

Order Isopoda

Suborder Asellota

Family Asellidae

#*Caecidotea racovitzai* (Williams)

#*Lirceus lineatus* (Say)

Suborder Oniscidea

Family Trichoniscidae

Trichoniscus pusillus Brandt

Family Cylisticidae

Cylisticus convexus (DeGeer)

Family Porcellionidae

Porcellio scaber Latreille

Porcellio spinicornis Say

Family Trachelipidae

Trachelipus rathkei (Brandt)

Class Maxillopoda

Subclass Copepoda

Order Calanoida

Family Diaptomidae

Diaptomus ashlandi Marsh

Diaptomus minutus Westwood

Family Temoridae

Epischura lacustris S. A. Forbes

Order Cyclopoida

Family Cyclopidae

Cyclops bicuspidatus thomasi Claus

Tropocyclops prasinus mexicanus Kiefer

Subphylum HEXAPODA

Class Insecta

Insects, representing the bulk of multi-cellular biodiversity are, except for some particularly charismatic groups, both extremely under-represented in most inventories and relatively poorly understood taxonomically. At the Huron Mt. Club Orders Ephemeroptera (mayflies) and Odonata (dragonflies and damselflies) and Families Carabidae and Cerambycidae (long-horned beetles) in the Coleoptera are particularly well-documented (see references associated with those groups), and recent work has dramatically improved records for Lepidoptera (moths and butterflies). These groups are also relatively well-addressed taxonomically; consequently, the current lists are likely to remain fairly stable. Other groups are less well-treated, and a complete tally of insects for the Huron Mt. Club would certainly be many times longer than the current list. The only general list of insects is by Andrews from *The Book of Huron Mountain* (1929) (see Gosling 1983); species listed by Andrews are prefaced by an asterisk below; they are often named in subsequent listings as well. Andrews' taxonomy required extensive updating, and about 20 names could not be found in current resources; these are not included in the current list. Yanoviak and McCafferty (1996) list stream macroinvertebrates, cutting across taxonomic boundaries; their listings are prefaced here by a "#". The Andrews list may include species not actually observed at the Huron Mt. Club, but only 'expected'; for example, *Sphex ichneumoneus* is listed by Andrews but is unlikely to occur in the study area as it's host species is unknown in the area, and I have removed it from this list. Mark O'Brien's collections (held at the University of Michigan Museum of Zoology) have, in recent years, added substantially to this list (personal communications); some of these are focused on particular taxa, and are mentioned in text incorporated in following sections. Ronald Priest has added several dozen species of leaf-mining insects (predominantly microlepidopterans) (unpublished reports 2003-2014; Adamski et al. 2014); a number of species, primarily Coleoptera, Hymenoptera, and Diptera are documented as hosts in O'Connor's (1987) unpublished report on astigmatid mites; some Lepidoptera in addition to those listed by Andrews are from E. North (unpublished report 2011); surveys by Bess and Werner (unpublished reports 2014,2015) added over 350 species of moths as well as all listed species of Drosophilidae (Diptera). Unless otherwise noted for

particular groups, taxonomy is checked against ITIS (Integrated Taxonomic Information System) (www.itis.gov), and *Nomina Insecta Nearctica* (www.nearctica.com/nomina/main.htm) which are both current and actively maintained. Occasional reference was made to other university- and researcher-sponsored web-pages for particular groups. Higher-level taxonomy of Class Insecta is taken from the same sources and Arnett (1993). Because of the size of the Class, we recognize more 'intermediate' taxonomic levels than elsewhere (e.g., subclasses, superorders, etc.). The rank of these taxonomic groups should be recognized as somewhat unstable (e.g. suborders are sometimes elevated to order status or demoted to superfamilies; indeed, Class Insecta is sometimes elevated to Subphylum status). Nonetheless, they serve to clarify systematic and phylogenetic relationships.

Subclass Pterygota

Superorder Paleoptera

Apparently a paraphyletic group (Tudge 2000), this grouping of Orders Ephemeroptera and Odonata remain a useful group or 'grade', including the most 'primitive' winged insects.

Order Ephemeroptera

The list of Ephemeroptera – the mayflies – for the Huron Mt. Club is drawn primarily from the documentation of W. P. McCafferty (report submitted to the Huron Mt. Wildlife Foundation, 1994, McCafferty 1992). Nomenclature has been updated, and higher taxonomy organized according to the "Mayflies of North America" website (<http://www.entm.purdue.edu/entomology/research/mayfly/contents.html>), also maintained by McCafferty. To date, 83 species are included.

Suborder Furcatergalia

Family Ephemeridae

Ephemera simulans Walker
Hexagenia limbata (Serville)
Litobrancha recurvata (Morgan)

Family Caenidae

Brachycercus n. sp.
Caenis amica Hagen
Caenis diminuta diminuta Walker
Caenis latipennis Banks
Caenis punctata McDunnough
Caenis youngi Roemhild

Family Ephemerellidae

Attenella margarita (Needham)
Dannella simplex (McDunnough)
Drunella cornuta (Morgan)
Drunella cornutella (McDunnough)
Ephemerella aurivillii (Bengtsson)
Ephemerella dorothea Needham
Ephemerella excrucians Walsh
Ephemerella invaria (Walker)
Ephemerella needhami McDunnough
Ephemerella subvaria McDunnough
Eurylophella aestiva (McDunnough)
Eurylophella bicolor (Clemens)
Eurylophella funeralis (McDunnough)
Eurylophella temporalis (McDunnough)
Eurylophella versimilis (McDunnough)
Serratella molita (McDunnough)
Serratella deficiens (Morgan)

Family Leptophlebiidae

Choroterpes fusca Spieth
Choroterpes basalis (Banks)
Leptophlebia cupida (Say)
Leptophlebia nebulosa (Walker)
Paraleptophlebia adoptiva (McDunnough)
Paraleptophlebia debilis (Walker)
Paraleptophlebia guttata (McDunnough)
Paraleptophlebia mollis (Eaton)
Paraleptophlebia praepedita (Eaton)
Paraleptophlebia volitans (McDunnough)

Family Leptoxyphidae

Tricorythodes minutus Traver

Suborder Pisciforma

Family Ameletidae

Ameletus lineatus Traver

Family Baetidae

Acentrella parvula (McDunnough)
Acentrella turbida (McDunnough)
Acerpenna macdunnoughi (Ide)
Acerpenna pygmaea (Hagen)
Baetis brunneicolor McDunnough
Baetis flavistriga McDunnough
Baetis intercalaris McDunnough
Baetis pluto McDunnough
Baetis tricaudatus Dodds
Callibaetis fluctuans (Walsh)
Callibaetis pallidus Banks
Centroptilum album McDunnough
Centroptilum convexum Ide
Centroptilum triangulifer (McDunnough)
Plauditus dubius (Walsh)
Plauditus punctiventris (McDunnough)
Procloeon bellum (McDunnough)
Procloeon mendax (Walsh)
Procloeon rubropictum (McDunnough)
Procloeon simplex (McDunnough)

Family Metretopodidae

Siphloplecton basale (Walker)
Siphloplecton interlineatum (Walsh)

Family Siphonuridae

Siphonurus alternatus (Say)
Siphonurus quebecensis (Provancher)
Siphonurus rapidus McDunnough

Suborder Setisura

Family Isonychiidae

Isonychia bicolor (Walker)
Isonychia bicolor (Walker)
Isonychia rufa McDunnough
Isonychia rufa McDunnough

Family Arthropleidae

Arthroplea bipunctata (McDunnough)

Family Heptageniidae

Epeorus vitreus (Walker)
Heptagenia diabasia Burks

Heptagenia flavescens (Walsh)
Heptagenia pulla (Clemens)
Leucrocuta hebe (McDunnough)
Rhithrogena impersonata (McDunnough)
Rhithrogena manifesta Eaton
Rhithrogena undulata (Banks)
Stenacron interpunctata (Say)
Stenonema exiguum Traver
Stenonema femorata (Say)
Stenonema luteum (Clemens)
Stenonema modestum (Banks)
Stenonema pulchellum (Walsh)
Stenonema terminatum terminatum (Walsh)
Stenonema vicarium (Walker)

Order Odonata

Species lists for the Odonata – the dragonflies and damselflies – are drawn from reports to the Huron Mt. Wildlife Foundation by Mark F. O'Brien and Ethan Bright (University of Michigan). Their compilation includes records from several other collectors. Taxonomy, including family sequence, was checked against *Nomina Nearctica Insecta* (<http://www.nearctica.com/nomina/nomina.htm>) and lists maintained by the Dragonfly Society of the Americas (e.g., "List of Odonata of the World", 2002, <http://www2.ups.edu/biology/museum/worldodonates.html>). O'Brien and Bright's genus *Hylogomphus* is assigned by most current lists to *Gomphus*; we have kept *Hylogomphus* here. *Hylogomphus* (*Gomphus*) *brevis* appears to be a synonym for *H. adelphus*, and we have listed only the latter. No other disagreements have been identified. English names, given in parentheses, are also derived from the Dragonfly Society's list of accepted names; while these names can't yet be described as 'common names', the efforts of the Society to promote them as such are recognized. Three species have been added as a result of personal communications from Dr. William Manierre. 81 species are included in the current list.

Suborder Zygoptera

Family Calopterygidae

Calopteryx aquaebilis Say (River Jewelwing)
Calopteryx maculata (Beauvois) (Ebony Jewelwing)

Family Lestidae

Lestes congener Hagen (Emerald Spreadwing)
Lestes disjunctus disjunctus Selys (Common Spreadwing)
Lestes dryas Kirby (Emerald Spreadwing)
Lestes eurinus Say (Amber-winged Spreadwing)
Lestes forcipatus Rambur (Sweetflag Spreadwing)
Lestes rectangularis Say (Slender Spreadwing)
Lestes unguiculatus Hagen (Lyre-tipped Spreadwing)

Family Coenagrionidae

Amphiagrion saucium Hagen (Easter Red Damsel)
Argia fumipennis violacea (Hagen) (Violet Dancer)
Argia moesta (Hagen) (Powdered Dancer)
Chromagrion conditum (Hagen) (Aurora Damsel)
Coenagrion resolutum (Hagen) (Taiga Bluet)
Enallagma boreale (Selys) (Boreal Bluet)
Enallagma carunculatum Morse (Tule Bluet)
Enallagma cyathigerum (Charp.) (Northern Bluet)
Enallagma cyathigerum vernale (Gloyd) (Spring Bluet)
Enallagma ebrium (Hagen) (Marsh Bluet)
Enallagma exsulans Hagen (Stream Bluet)
Enallagma geminatum Kellicott (Skimming Bluet)
Enallagma hageni (Walsh) (Hagen's Bluet)

Enallagma vernale (Gloyd) (Spring Bluet)
Enallagma vesperum Calvert (Vesper Bluet)
Ischnura posita (Hagen) (Fragile Forktail)
Ischnura verticalis (Say) (Eastern Forktail)
Nehalennia irene (Hagen) (Sedge Sprite)

Suborder Anisoptera

Family Aeshnidae

Aeshna canadensis Walker (Canada Darner)
Aeshna constricta Say (Lance-tipped Darner)
Aeshna eremita Scudder (Lake Darner)
Aeshna interrupta Walker (Variable Darner)
Aeshna tuberculifera Walker (Black-tipped Darner)
Aeshna umbrosa Walker (Shadow Darner)
Anax junius (Drury) Common (Green Darner)
Basiaeschna janata (Say) (Springtime Darner)
Boyeria vinosa (Say) (Fawn Darner)
Gomphaeschna furcillata (Say) (Harlequin Darner)

Family Gomphidae

Arigomphus cornutus (Tough) (Horned Clubtail)
Dromogomphus spinosus Selys (Black-shouldered Spinyleg)
Gomphus exilis Selys (Lilypad Clubtail)
Gomphus graslinellus Walsh (Pronghorn Clubtail)
Gomphus lividus Selys (Ashy Clubtail)
Gomphus quadricolor Walsh (Rapids Clubtail)
Gomphus spicatus Hagen (Dusky Clubtail)
Hagenius brevistylus (Selys) (Dragonhunter)
Hylogomphus (Gomphus) adelphus Selys (Mustached Clubtail)
Ophiogomphus carolus Tough (Rifle Snaketail)
Ophiogomphus colubrinus Selys (Boreal Snaketail)
Ophiogomphus rupinsulensis (Walsh) (Rusty Snaketail)
Stylogomphus ablistylus (Hagen) (Least Clubtail)
Stylurus scudderi (Selys) (Zebra Clubtail)

Family Cordulegastridae

Cordulegaster maculata (Selys) (Twin-Spotted Spiketail)

Family Macromidae

Didymops transversa (Say) (Stream Cruiser)
Macromia illinoensis Walsh Illinois (River Cruiser)

Family Corduliidae

Cordulia shurtleffi Scudder (American Emerald)
Dorocordulia libera (Selys) (Racket-tailed emerald)
Epitheca canis (MacLachlan) (Beaverpond baskettail)
Epitheca cynosura (Say) (Common Baskettail)
Epitheca spinigera (Selys) (Spiny Baskettail)
Neurocordulia yamaskanensis (Provancher) (Stygian Shadowdragon)
Stomatochlora cingulata (Selys) (Lake Emerald)
Stomatochlora elongata Scudder (Ski-tailed Emerald)
Stomatochlora forcipata Scudder (Forcipate Emerald)
Stomatochlora franklini (Selys) (Delicate Emerald)
Stomatochlora kennedyi Walker (Kennedy's Emerald)
Stomatochlora minor Calvert (Ocellated Emerald)
Stomatochlora walshii (Scudder) (Brush-tipped Emerald)
Stomatochlora williamsoni Walker (Williamson's Emerald)

Family Libellulidae

Celithemis elisa (Hagen) (Calico Pennant)
Ladona julia Uhler (Chalk-fronted Corporal)

Libellula pulchella Drury (Twelve-spotted Skimmer)
Libellula quadrimaculata Linnaeus (Four-spotted Skimmer)
Leucorrhinia frigida (Hagen) (Frosted Whiteface)
Leucorrhinia glacialis Hagen (Crimson-ringed Whitface)
Leucorrhinia hudsonica (Selys) (Hudsonian Whiteface)
Leucorrhinia intacta (Hagen) (Dot-tailed Whiteface)
Leucorrhinia proxima Calvert (Red-waisted Whiteface)
Libellula pulchella Drury (Twelve-spotted Skimmer)
Libellula quadrimaculata Linnaeus (Four-spotted Skimmer)
Plathemis lydia (Drury) (Common Whitetail)
Sympetrum costiferum (Hagen) (Saffron-winged Meadow-hawk)
Sympetrum danae (Sulzer) (Black Meadowhawk)
Sympetrum internum Montgomery (Cherry-faced Meadow-hawk)
Sympetrum obtrusum (Hagen) (White-faced Meadow-hawk)
Sympetrum rubicundulum (Say) (Ruby Meadow-hawk)
Sympetrum vicinum (Hagen) (Yellow-legged Meadow-hawk)
Tramea lacerata (Hagen) (Black Saddlebags)

Subclass Neoptera

Superorder Orthopteroidea

Order Plecoptera

Family Capniidae

#*Paracapnia angulata* Hanson

Family Chloroperlidae

#*Alloperla* sp.

#*Haploperla brevis* (Banks)

Family Leuctridae

#*Leuctra tenella* Provancher

#*Leuctra tenuis* (Pictet)

Family Nemouridae

#*Amphinemura linda* (Ricker)

#*Prostoia completa* (Walker)

Family Perlidae

#*Acroneuria lycorias* (Newman)

#*Paragnetina media* (Walker)

Family Perlodidae

#*Isoperla cotta* Ricker

#*Isoperla frisoni* Illies

#*Isoperla lata* Frison

#*Isoperla richardsoni* Frison

#*Isoperla signata* (Banks)

#*Isoperla transmarina* (Newman)

#*Isogenoides doratus* (Frison)

#*Isogenoides frontalis* (Newman)

#*Isogenoides olivaceus* (Walker)

#*Isogenoides* sp.

Family Pteronarcyidae

#*Pteronarcys dorsata* (Say)

Family Taeniopterygidae

#*Taeniopteryx burksi* Ricker and Ross

Order Orthoptera

The traditional “orthopterans” have been split into several orders. Here, Orthoptera in the strict sense

includes grasshoppers, crickets, and katydids. Cockroaches are either included with mantids in Order Dictyoptera, or split into a separate order, Blattaria. Species listed here are from a report by T.H. Hubbell (1921), and recent collections by M. O'Brien and D. Gosling (O'Brien, personal communication, 2004). Species listed by Hubbell and not noted by O'Brien are indicated by a "#"; several of Hubbell's listings are not found in ITIS, but are in *Nomina Insecta Nearctica*, and so are included here. Hubbell lists a *Melanoplus dodgei huroni* Blatchley, a subspecies not referenced elsewhere; I have chosen to list *M. dodgei*.

Suborder Caelifera (grasshoppers, short-horned grasshoppers, locusts)

Family Acrididae

Booneacris glacialis canadensis (E.M. Walker)
Camnula pellucida (Scudder)
Chloealtis abdominalis (Thomas)
Chloealtis conspersa Harris
Chorthippus curtipennis Fieber
**Dissosteira carolina* (L.)
Melanoplus bivittatus (Say)
Melanoplus borealis (Fieber)
Melanoplus bruneri Scudder
Melanoplus confusus Scudder
Melanoplus dawsoni (Scudder)
Melanoplus fasciatus (Walker)
Melanoplus femurrubrum (DeGeer)
#*Melanoplus huroni* Blatchley
Melanoplus islandicus Blatchley
Melanoplus keeleri luridus (Dodge)
#*Melanoplus sanguinipes* (Fabr.)
#*Melanoplus stonei* Rehn.
Spharagemon collare (Scudder)
#*Spharagemon marmorata* (Harris)
Stethophyma gracile (Scudder)
Stethophyma lineatum (Scudder)
#*rimerotropis verruculata* (Kirby)

Family Tetrigidae

Nomotettix cristatus (Scudder)
Tettigidea lateralis (Say)
Tetrix arenosa angusta (Hancock)
Tetrix ornata ornata (Say)
#*Tetrix subulata* (L.)

Suborder Ensifera (katydids, mole crickets, camel crickets)

Family Gryllidae

#*Acheta domestica* (L.)
Allonemobius allardi (Alexander & Thomas)
Allonemobius fasciatus (DeGeer)
Gryllus pennsylvanicus Burm.
Gryllus veletis (Alexander & Bigelow)
Neonemobius palustris (Blatchley)
**Oecanthus niveus* (De Geer)

Family Rhaphidophoridae

Ceuthophilus maculatus (Harris)
Ceuthophilus brevipes Scudder

Family Tettigoniidae

Atlanticus testaceus (Scudder)
Conocephalus fasciatus (DeGeer)
Orchelimum gladiator Bruner

Scudderia pistillata Brunner

Order Dictyoptera (or Blattaria) (cockroaches)

Family Blattellidae

Blatella germanica (L.)
Parcoblatta virginica (Brunner)
Parcoblatta pennsylvanica (DeGeer)
**Periplaneta americana* (Linnaeus)

Order Phasmida (stick insects)

Family Phasmidae

**Diapheromera femorata* Say

Order Psocoptera

Gary Eertmoed, of Chicago State University, sampled Psocoptera (“bark-lice”) at the Huron Mt. Club in 1985. This list is taken from his unpublished report to the Huron Mt. Wildlife Foundation. Eertmoed’s report lists 24 species; I list 22 as I have been unable to find any current reference to or authority for two species (*Ptycta atrata* and *Trichadenotecnum unum*). A third, *Peripsocus quadrifasciatus*, is not listed in ITIS or *Nomina Nearctica*, but several other current sources concur on an authority.

Suborder Trogiomorpha

Family Lepidopsocidae

Echmepteryx hageni (Packard)

Suborder Troctomorpha

Family Amphisocidae

Polypsocus corruptus (Hagen)

Family Caeciludae

Caecilius flavidus Stephens
Caecilius pinicola Banks

Family Elipsocidae

Reuterella helvimacula Enderlein

Family Epipsocidae

Bertkauia crosbyanus Chapman
Bertkauia lepicidinaria Chapman

Family Lachesillidae

Anomopsocus amabilis (Walsh)
Lachesilla contraforcepeta Chapman

Family Liposcelidae

Embidopsocus needhami (Enderlein)

Family Mesopsocidae

Mesopsocus laticeps (Kolbe)
Mesopsocus unipunctatus (Muller)

Family Peripsocidae

Peripsocus alboguttatus (Dalman)
Peripsocus maculosus Mockford
Peripsocus quadrifasciatus (Harris)

Family Psocidae

Blaste quieta (Hagen)
Blastopsocus lithinus (Chapman)
Hyalopsocus floridanus (Banks)
Loensia moesta (Hagen)
Metylophorus novaescotiae (Walker)
Psocus leidy Aaron
Ptycta polluta (Walsh)

Trichadenotecnum majus (Kolbe)

Superorder Hemipteroidea

The traditional Order Homoptera may be polyphyletic, and many authorities now merge it into Order Hemiptera as a set of suborders, however this has been challenged by claims that Homoptera is, in fact, monophyletic. I have kept the two traditional orders here under super-order Hemipteroidea. Most of the Homoptera listed are leaf-hoppers, spittle-bugs, and relatives from survey reports by Bess (2014, 2015, 2019).

Order Hemiptera

Family Hydrometridae

**Gerris remigis* Say

Family Notonectidae

**Notonecta undulata* Say

Family Pentatomidae

**Acrosternum hilaris* (Say)

Family Reduviidae

**Reduvius personatus* (Linnaeus)

Order Homoptera

Family Caliscelidae

Aphelonema histrionica (Stål)

Bruchomorpha oculata Newman

Family Cercopidae

Aphrophora cribrata (Walker)

Lepyronia coleoptrata (Linnaeus)

Philaenarcys bilineata (Say)

Philaenus spumarius (Linnaeus)

Family Cicadellidae

Aceratagallia sanguinolenta (Provencher)

Aguriahana stellulata (Kirschen-Blattzikadel)

Athysanus argentarius Metcalf

Balclutha confluens (Rey)

Balclutha impicta Van Duzee

Chlorotettix unicoloratus (Fitch)

Cloanthanus cuprescens (Osborn)

Cicadula melanogaster (Provancher)

Cicadula smithi (Van Duzee)

Cicadula straminea (Sanders and DeLong)

Commellus sexvittatus (Van Duzee)

Cosmotettix delector (Sanders and DeLong)

Dikraneura sp.

Diplocolenus abdominalis (Fabricius)

Diplocolenus configuratus (Uhler)

Doratura stylata (Boheman)

Draeculacephala constricta (?) Davidson and DeLong

Elymana inornata (Van Duzee)

Endria inimical (Say)

Erythroneura sp.

Graphocephala coccinea (Forster)

Gyponana sp. (F)

Gyponana sp (nymphs)

Laevicephalus acus (Sanders and DeLong)

Laevicephalus melsheimerii (Fitch)

Laevicephalus minimus (Osborn and Ball)
Laevicephalus sylvestris (Osborn and Ball)
Latulus missellus (Ball)
Limotettix sp. 1 -
Limotettix sp. 2 -
Macrosteles quadrilineatus (Forbes)
Nesosteles neglecta (DeLong and Davidson)
Paraphlepsius fulvidorsum (Fitch)
Polyamia herbida DeLong
Scaphoideus sp. 1
Scaphoideus sp. 2
Scaphytopius frontalis (Van Duzee)
Scleroracrus instabilis (Van Duzee)
Scleroracrus luteolus (Sleesman)
Scleroracrus shastus (Ball)
Scleroracrus vaccinia (Van Duzee)
Sorhoanus orientalis DeLong and Davidson
Stirellus bicolor (Van Duzee)
Xestocephalus pulicarius Van Duzee

Family Cixiidae

Cixus pini Fitch

Family Clastopteridae

Clastoptera saintcyri Provancher

Family Cicadidae

Okanagana rimosa (Say)

Tibicen canicularis (L.)

**Tibicen lyricen* De Geer

Family Delphacidae

Megamelus davisii Van Duzee

Muirodelphax arvensis (Fitch)

Muellerianella laminalis (Van Duzee)

Stenocranus felti Van Duzee

Unknown sp 1

Unknown sp 2

Unknown sp 3

Family Derbidae

Cedusa sp.

Family Membracidae

**Archasia auriculata* (Fitch)

Ophiderma salamandra Fairmaire

Superorder Holometabola

Order Coleoptera

Notes on sources for this massive Order are included with appropriate suborders and families. In addition to taxon-specific studies mentioned below, over 20 species of beetles are listed as hosts in O'Connor's (1987) unpublished report on astigmatid mites. Gorrying (2013-14), in surveys of Cerambycidae, documented several dozen species in other families.

Suborder Adephaga

Family Carabidae

Listings for Carabidae and Cicindelidae, except for a few species listed by Anderson, and some collections by Mark O'Brien, are from an unpublished 1987 report by G. A. Dunn.

Acupalpus nanellus Casey
Acupalpus pauperculus Dejean
**Agonoderus pallipes* Fabricius
Agonum aeroginosum Dejean
Agonum anchomenoides Randall
**Agonum cupripenne* (Say)
Agonum decorum (Say)
Agonum errans (Say)
Agonum extensicolle (Say)
Agonum gratiosum (Mannerheim)
Agonum harrisi LeConte
Agonum lutulentum (LeConte)
Agonum melanarium Dejean
Agonum metallescens (LeConte)
Agonum moerens Dejean
Agonum palustre Goulet
Agonum picicornoides Lindroth
Agonum placidum (Say)
Agonum propinquum (Gemminger&Harold)
Agonum puncticeps (Casey)
**Agonum sinuatus* (Dejean)
Agonum tenue (LeConte)
Agonum thoyeri Dejean
Agonum trigeminum Lindroth
Amara convexa LeConte
Amara latior (Kirby)
**Amara obesa* (Say)
**Anisodactylus baltimorensis* Say
Anisodactylus discoideus Dejean
Anisodactylus nigerrimus (Dejean)
Anisodactylus nigrata Dejean
Anisodactylus sanctaecrucis (Fabricius)
Apristus latens (LeConte)
Badister neopulchellus Lindroth
Bembidion affine Say
Bembidion americanum Dejean
Bembidion bimaculatum (Kirby)
Bembidion carnicula Chaudoir
Bembidion castor Lindroth
Bembidion chalceum Dejean
Bembidion colandi Fall
Bembidion concolor (Kirby)
Bembidion concretum Casey
Bembidion confusum Hayward
Bembidion frontale (LeConte)
Bembidion impotens Hayward
Bembidion inaequale Say
Bembidion intermedium (Kirby)
Bembidion levettei Casey
Bembidion muscicola Hayward
Bembidion nigriceps (Kirby)
Bembidion nigrum (Say)
Bembidion nitidum (Kirby)
Bembidion oberthueri Hayward
Bembidion obscurellum (Motschulsky)
Bembidion occultator Notman

Bembidion patruale Dejean
Bembidion planum (Haldeman)
Bembidion postremum Say
Bembidion quadrimaculatum (L.)
Bembidion rapidum (LeConte)
Bembidion rusticum Casey
Bembidion salebratum (LeConte)
Bembidion scopulinum Kirby
Bembidion transparens (Gebler)
Bembidion transversale Dejean
Bembidion versicolor (LeConte)
Bembidion versutum LeConte
Blethisa quadricollis Haldeman
Brachinus sp.
Bradycellus lecontei Csiki
**Calathus gregarius* (Say)
Calathus ingratus Dejean
**Calleida punctata* Leconte
**Calosoma calidum* (Fabricius)
**Calosoma frigidum* Kirby
**Calosoma scrutator* (Fabricius)
**Carabus maender* Fischer
Carabus nemoralis Muller
**Carabus serratus* Say
Chlaenius lithophilus Say
Chlaenius pennsylvanicus Say
**Chlaenius sericeus* (Forster)
Chlaenius tricolor Dejean
Clivina fossor (L.)
**Clivina impressifrons* Leconte
Cymindis borealis LeConte
Cymindis cribricollis Dejean
Cymindis neglecta Haldeman
Diplocheila impressicollis (Dejean)
**Diplocheila laticollis* Leconte
Elaphropus anceps (LeConte)
Elaphropus incurvus (Say)
Elaphrus clairvillei Kirby
Elaphrus olivacens LeConte
**Elaphrus riparius* Linnaeus
**Galerita bicolor* Drury
Galerita janus (Fabricius)
Harpalus affinis (Schrank)
**Harpalus caliginosus* (Fabricius)
Harpalus fulvilabris Mannerheim
Harpalus herbivagus Say
Harpalus lewisi LeConte
Harpalus opacipennis (LeConte)
Harpalus pennsylvanicus (DeGeer)
Harpalus pleuriticus Kirby
Harpalus viduus LeConte
Lebia atriventris Say
Lebia fuscata Dejean
**Lebia scapularis* (Fourcroy)
Lebia solea Hentz
**Lebia viridis* Say

Loricera pilicornis (Fabricius)
Metabletus americanus Dejean
Microlestes linearis (LeConte)
Miscodera arctica (Peykull)
Myas cyanescens Dejean
Nomius pygmaeus (Dejean)
Notiobia terminata ((Say))
Notiophilus semistriatus Say
**Omophron americanum* Dejean
Omophron tessellatum Say
**Patrobus longicornis* (Say)
Patrobus septentrionis Dejean
Platynus decentis (Say)
Platynus mannerheimi (Dejean)
Pseudamphasia sericea (Harris)
Pterostichus adstrictus Eschscholtz
**Pterostichus coracinus* (Newman)
Pterostichus corvinus (Dejean)
Pterostichus femoralis (Kirby)
Pterostichus leconteianus Lutschnik
Pterostichus luctuosus (Dejean)
Pterostichus lucublandus Say
Pterostichus melanarius (Illiger)
Pterostichus novus Straneo
Pterostichus patruelis (Dejean)
Pterostichus pennsylvanicus LeConte
Pterostichus tristis (Dejean)
Schizogenius sulcifrons Putzeys
Selenophorus gagatinus Dejean
Sphaeroderus lecontei Dejean
Stenolophus comma (Fabricius)
Stenolophus conjunctus (Say)
Stenolophus fuliginosus Dejean
Stenolophus lineola (Fabricius)
Stenolophus ochropezus (Say)
Synuchus impunctatus (Say)
Tachyta nana Gyllenhal
Trechus apicalis Motschulsky
Trechus quadristriatus (Erichson)

Family Cicindelidae

Cicindela duodecimguttata Dejean
**Cicindela hirticollis* Say
Cicindela limbalis Klug
**Cicindela longilabris* Say
**Cicindela patruela* Dejean
**Cicindela purpurea limbalis* Olivier
**Cicindela repanda* Dejean
Cicindela sexguttata Fabricius
**Cicindela tranquebarica* Herbst

Family Dytiscidae

**Acilius semisulcatus* (Aube)
**Colymbetes sculptilis* Harris
**Dytiscus harrisii* Kirby

Family Gyrinidae

**Dineutus assimilis* Kirby
**Gyrinus picipes* Aube

Suborder Polyphaga

Superfamily Bostrichoidea

Family Dermestidae

Dermestes lardarius L.

Family Ptinidae

Hadrobregmus notatus (Say)

Ptilinus ruficornis Say

Ptinus fur (L.)

Superfamily Buprestoidea

Family Buprestidae

Buprestid beetles not recorded by Andrews were collected by D.C.L. Gosling and documented in unpublished reports 1981-1983 and by O'Connor in an unpublished 1987 report.

Agrilus anxius Gory

Agrilus arcuatus (Say)

Agrilus aurichalceus var. *rubicola* (Abeille)

Agrilus granulatus var. *liragus* Barter&Brown

Agrilus masculinus Horn.

Agrilus politus (Say)

Agrilus vittaticollis (Randall)

Anthaxia expansa LeConte

Brachys aerosus Melsheimer

Brachys ovata Web.

Buprestis consularis Gory

**Buprestis fasciata* Fabricius

**Buprestis maculiventris* Say

**Buprestis nuttalli* Kirby

Buprestis striata Fabricius

**Chalcophora liberta* (Germar)

**Chalcophora virginensis* (Drury)

Chrysobothris cribaria Mannerheim

**Chrysobothris dentipes* (Germar)

Chrysobothris femorata (Olivier)

Chrysobothris harrisi (Hentz)

Chrysobothris misella LeConte

Chrysobothris neopusilla Fischer

Chrysobothris rugosiceps Melsheimer

Chrysobothris scabripennis Castenlau&Gory

Chrysobothris sexsignata (Say)

Chrysobothris trinervia (Kirby)

Chrysobothris verdigripennis Frost

Dicerca caudata LeConte

Dicerca divaricata (Say)

**Dicerca prolongata* Leconte

Dicerca tenebrica (Kirby)

Dicerca tenebrosa (Kirby)

Melanophila acuminata (DeGeer)

Melanophila drummondi var. *nicolayi* Obenberger

**Melanophila fulvoguttata* (Harris)

Superfamily Byrrhoidea

Family Byrrhidae

**Byrrhus americanus* LeConte

Superfamily Cantharoidea

Family Lampyridae

Ellychnia corrusca (Linnaeus)
Lucidota atra (Olivier)
**Photinus carolinus* Green
**Photuris pennsylvanica* (DeGeer)

Superfamily Chrysomeloidea

Family Cerambycidae

This listing of Cerambycidae – the longhorned beetles – is taken from Andrews (1929) and Gosling (1986) with additions, updates, and revisions by Goring (unpublished reports, 2013, 2014)..

Subfamily Parandrinae

**Neandra brunnea* (Fabricius)

Subfamily Prioninae

Orthosoma brunneum (Forster)

Tragosoma harrisii LeConte

Subfamily Spondylidinae

Arhopalus foveicollis (Haldeman)

Arhopalus rusticus obsoletus (Randall)

Asemum striatum (L.)

Neospondylis upiformis (Mannerheim)

Tetropium cinnamopterum cinnamopterum Kirby

Tetropium c. parvulum Casey

Tetropium schwarzianum Casey

Subfamily Lepturinae

Acmaeops p. proteus (Kirby)

Acmaeopsoides rufula (Haldeman)

Anastrangalia sanguinea (LeConte)

Anoplodera pubera (Say)

Anthophylax attenuatus (Haldeman)

Anthophylax cyaneus (Haldeman)

Bellamira scalaris (Say)

Brachyleptura champlaini Casey

Brachyleptura rubrica (Say)

Centrodera decolorata (Harris)

Charisalia americana (Haldeman)

**Cosmosalia chrysocoma* (Kirby)

Desmocerus palliatus (Forster)

Encyclops caerulea (Say)

Evodinus m. monticola (Randall)

Gaurotes cyanipennis (Say)

Grammoptera subargentata (Kirby)

Idiopidonia pedalis (LeConte)

Judolia m. montivagans (Couper)

Leptura plebeja Randall

Leptura subhamata Randall

Lepturopsis biforis (Newman)

Neoalosterna capitata (Newman)

Pidonia ruficollis (Say)

**Pygoleptura n. nigrella* (Say)

**Rhagium i. inquisitor* (L.)

Sachalinobia rugipennis (Newman)

Stenocorus vittiger (Randall)

**Stictoleptura c. canadensis* (Olivier)

Strangalepta abbreviata (Germar)

Trachysida aspera brevifrons (Howden)

Trachysida mutabilis (Newman)

Trigonarthris minnesotana (Casey)
**Trigonarthris proxima* (Say)
Typocerus sparsus LeConte
Typocerus v. velutinus (Olivier)
**Xestoleptura tibialis* (LeConte)

Subfamily Cerambycinae

Anelaphus parallelus (Newman)
Anelaphus villosus (Fabricius)
Callidium schotti Schaeffer
Callimoxys sanguinicollis (Olivier)
Calloides n. nobilis (Harris)
**Clytus ruricola* (Olivier)
Cyrtophorus verrucosus (Olivier)
Glycobius speciosus (Say)
Hesperophanes pubescens (Haldeman)
Microclytus compressicollis (Laporte and Gory)
Molorchus b. bimaculatus Say
Neoclytus a. acuminatus (Fabricius)
Neoclytus l. leucozonus Laporte & Gory
Phymatodes aereus (Newman)
Phymatodes dimidiatus (Kirby)
Phymatodes testaceus (L.)
**Physocnemum brevilineum* (Say)
Pronocera c. collaris (Kirby)
Psyrassa unicolor (Randall)
Purpuricenus humeralis (Fabricius)
Ropalopus sanguinicollis (Horn)
Sarosesthes fulminans (Fabricius)
Tylonotus bimaculatus Haldeman
Xylotrechus a. annosus (Say)
Xylotrechus colonus (Fabricius)
Xylotrechus quadrimaculatus (Haldeman)
Xylotrechus s. sagittatus (Germar)
Xylotrechus undulatus (Say)

Subfamily Lamiinae

Acanthocinus pusillus Kirby
Aegomorphus modestus (Gyllenhal)
Astyleiopus variegatus (Haldeman)
Astylopsis macula (Say)
Astylopsis sexguttata (Say)
Eupogonius subarmatus (LeConte)
Eutrichillus biguttatus (LeConte)
Graphisurus fasciatus (Degeer)
Hyperplatys aspersa (Say)
Hyperplatys maculata Haldeman
Lepturges symmetricus (Haldeman)
Microgoes oculatus (LeConte)
Monochamus marmorator Kirby
Monochamus mutator LeConte
Monochamus notatus (Drury)
Monochamus s. scutellatus (Say)
Oberea tripunctata (Swederus)
Oplosia nubila (LeConte)
Pogonocherus mixtus Haldeman
Pogonocherus parvulus LeConte
Pogonocherus penicillatus LeConte

Saperda calcarata Say
Saperda candida Fabricius
Saperda inornata Say
Saperda lateralis Fabricius
Saperda obliqua Say
Saperda tridentata Olivier
Saperda vestita Say
Sternidius alpha (Say)
Urgleptes querci (Fitch)
Urgleptes signatus (LeConte)

Family Chrysomelidae

Bassareus mammifer (Newman)
**Calligrapha amelia* Knab
**Calligrapha scalaris* (Lyonta)
**Calligrapha spiraea* (Say)
**Charidotella purpurata* (Boheman)
**Chelymorpha argus* Licht.
**Chrysocus auratus* (Fabricius)
Dibolia borealis Chevrolat in Guérin-Ménéville
**Disonycha quinquevittata* (Say)
**Donacia piscatrix* Lacordaire
**Donacia proxima* Kirby
**Labidomera clivicollis* Kirby
**Leptinotarsa decemlineata* (Say)

Superfamily Cleroidea

Family Cleridae

Enoclerus muttkowskii (Wolcott)
**Necrobia violacea* (Linnaeus)
**Thanasimus dubius* (Fabricius)
**Trichodes nuttalli* (Kirby)

Family Trogossitidae

Grynocharis quadrilineata (Melsheimer)
Thymalus marginicollis (Say)

Superfamily Cucujoidea

Family Coccinellidae

**Anatis labiculata* (Say)
**Hippodamia sinuata* Mulsant

Family Cucujidae

**Cucujus clavipes* Fabricius

Family Erotylidae

Triplax dissimulator (Crotch)
Triplax thoracica (Say)

Family Nitidulidae

**Phenolia grossa* (Fabricius)

Family Silvanidae

Silvanus muticus Sharp

Superfamily Curculionoidea

Initial listings for the weevil superfamily are from Gorring (unpublished report, 2015, 2016).

Family Anthribidae

Allandrus sp
Gonotropis dorsalis (Gyllenhal)

Family Curculionidae

Allandrus bifasciatus LeConte
Anisandrus sayi Hopkins

Anthonomus quadrigibbus Say
Arrhenodes minutus (Drury)
Barypeithes pellucidus (Boheman)
Crypturgus borealis Swaine
Curculio strictus (Casey)
Dendroctonus rufipennis (Kirby)
Dendroctonus valens LeConte
Dryophthorus americanus Bedel
Gnathotrichus materiarius (Fitch)
Himatium errans LeConte
Hylastes porculus Erichson
Hylobius congener Torre,Schenkling&Marshall
Hylobius pales (Herbst)
Hylurgops rugipennis (Mannerheim)
 **Hypera punctata* (Fabricius)
Ips grandicollis (Eichhoff)
Ips pini (Say)
 **Listronotus squamiger* (Say)
Magdalis austera Fall
Orthotomicus caelatus (Eichhoff)
 **Otiorhynchus ovatus* (Linnaeus)
Otiorhynchus rugosostriatus (Goeze)
 **Pandeletejus hilaris* (Herbst)
Perapion curtirostre Germar
Phyllobius oblongus (Linnaeus)
Pissodes affinis Randall
Pissodes sp.
Pityogenes hopkinsi Swaine
Pityokteines sparsus (LeConte)
Pityophthorus consimilis LeConte
Pityophthorus puberulus (LeConte)
Polydrusus formosus (Mayer)
Polygraphus rufipennis (Kirby)
Rhyncolus brunneus Mannerheim
Sciaphilus asperatus (Bonsdorff)
Scolytus rugulosus Müller
 **Spenophorus aequalis* Gyllenhal
 **Spenophorus costipennis* Horn
 **Spenophorus melanocephalus* (Fabricius)
 **Spenophorus pertinax* (Olivier)
 **Spenophorus zae* Walsh
Strophosoma melanogrammum Forster
Trypodendron lineatum (Olivier)

Superfamily Dascilloidea

Family Geotrupidae

Geotrupes balyi Jekel
 **Geotrupes egeriei* Germar
Geotrupes horni Blanchard

Superfamily Dryopoidea

Family Dryopidae

#*Helichus lithophilus* (German)

Family Elmidae

#*Dubiraphia minima* Hilsenhoff
 #*Macronychus glabratus* Say
 #*Optioservus fastiditus* (Leconte)
 #*Optioservus triviattus* (Brown)

#*Optioservus* sp.

#*Stenelmis crenata* (Say)

Family Psephenidae

#*Ectopria nervosa* (Melsheimer)

Superfamily Elateroidea

Family Elateridae

Agriotus fucosus LeConte

Alaus myops (Fabricius)

**Alaus oculatus* (Linnaeus)

Ampedus nigricollis Herbst

**Ampedus rubricus* (Say)

Clytus ruricola Olivier

**Ctenicera aeripennis* (Kirby)

**Ctenicera hieroglyphicus* (Say)

**Melanotus communis* (Gyllenhal)

Family Lycidae

Plateros lictor (Newman)

Superfamily Histeroidea

Family Histeridae

**Margarinotus immunis* (Erichson)

Superfamily Hydrophiloidea

Family Hydrophilidae

**Hydrochara obtusatus* (Say)

Superfamily Scarabaeoidea

Family Lucanidae

**Ceruchus piceus* (Weber)

Platycerus depressus LeConte

**Pseudolucanus placidus* (Say)

Family Scarabaeidae

**Aphodius hamatus* Say

**Cotalpa lanigera* (Linnaeus)

**Dichelonyx albicollis* Burmeister

**Hoplia trifasciata* Say

**Macroductylus subspinosus* (Fabricius)

**Onthophagus hecate* (Panzer)

Osmoderma eremicola (Knoch)

**Osmoderma scabra* (Beauvois)

**Phyllophaga crenulata* (Froelich)

**Strigoderma arboricola* (Fabricius)

Trichiotinus assimilis (Kirby)

**Trichiotinus piger* (Fabricius)

Superfamily Staphylinoidea

Family Silphidae

Nicrodes surinamensis (Fabricius)

Nicrophorus defodiens Mannerheim

**Nicrophorus marginatus* Fabricius

Nicrophorus pustulatus Herschel

Nicrophorus orbicollis Say

Nicrophorus sayi Laporte

Nicrophorus tomentosus Weber

Oiceoptoma noveboracense (Forster)

**Thanatophilus lapponica* (Herbst)

Family Staphylinidae

Ontholestes cingulatus (Gravenhorst)

**Oxyporus femoralis* Gravenhorst

Philonthus sp.

**Staphylinus maculosus* Gravenhorst

**Xenodusa cava* Leconte

Superfamily Tenebrionoidea

Family Melandryidae

**Dircaea liturata* LeConte

Family Meloidae

Epicauta vittata (Fabricius)

Family Mycetophagidae

Mycetophagus punctatus Say

Family Pyrochroidae

**Dendroides canadensis* LeConte

Family Pythidae

Pytho americanus Kirby

Family Tenebrionidae

Alobates pennsylvanica (DeGeer)

Bolitotherus cornutus (Panzer)

Capnochroa fuliginosa (Melsheimer)

Diaperis maculata Olivier

**Iphthiminus opacus* (LeConte)

**Meracantha contracta* (Beauvois)

Platydema americanum Laporte & Brullé

**Upis ceramboides* (Linnaeus)

Family Tetratomidae

Penthe obliquata (Fabricius)

**Penthe pimelia* (Fabricius)

Order Neuroptera

Family Chrysopidae

**Chrysopa oculata* Say

Family Mantispidae

**Climaciella brunnea* (Say)

Order Hymenoptera

Suborder Symphyta (sawflies, horntails)

Family Siricidae

**Tremex columba* (Linnaeus)

**Urocerus albicornis* (Fabricius)

Family Tenthredinidae

Caulocampus acercaulis MacG.

**Cimbex americana* Leach

Fenella nigrita Westwood

Fenusia pusilla (LePeletier)

Heterarthrus nemoratus (Fallen)

Metallus rohweri MacGillivray

Nefusa ambiguus Norton

Profenusia thomsoni (Konow)

Suborder Apocrita

Infraorder Parasitica

Family Aulacidae

Pristaulacus strangaliae Rohwer

Family Braconidae

Atanycolus ulmicola (Viereck)

Chorebus sp

Opius sp

Family Ichneumonidae

All ichneumonids listed here, unless indicated by asterisk as being from Andrews (1929), are from unpublished reports by H. Townes (1959-1960) and O'Connor (1987); in the latter case, they are listed as hosts of astigmatid mites. Subfamily assignment and sequence is taken from Arnett (1993). Townes' list includes specimens from both the Huron Mountain Club and from the Yellow Dog Plains; 31 taxa recorded only from the latter location are excluded here. Taxonomy was verified from standard sources for insects (above); the following species, listed by Townes, were not found in any searches, and are not included in the official list: *Cubocephalus schmuckii* D.T.; *Polyblastus expletus* Townes; *Polyblastus galaphilus* Townes; *Polyblastus strobilator* Thbg.; *Pycnocyrtus inquisitorius* var. *pectoralis* Muller; *Triclistus pallipes* Hgn.. 146 taxa are added from Townes' list; two are distinct only at varietal level; eight are listed as either "sp." or "n. sp.", designations retained here (current taxonomic status of these collections is unknown).

Subfamily Acaenitinae

Arotes amoenus Cresson
Arotes decorus (Say)
Arotes melleus (Say)
Coleocentrus flavipes (Provancher)
Coleocentrus pettiti Cresson
Coleocentrus rufocoxatus Pratt
Coleocentrus rufus Provancher
Spilopteron formosum var. *formosum* (Cresson)
Spilopteron franclemonti Townes
Spilopteron vicinum var. *vicinum* (Cresson)

Subfamily Anomaloninae

**Therion morio* (Fabricius)

Subfamily Campopleginae

Rhimphoctona macrocephala (Provancher)

Subfamily Cryptinae

Acroricnus stylator var. *aequatus* (Thunberg)
Agrothereutes mandator var. *americanus* (Linnaeus)
Cubocephalus alacris var. *alacris* (Cresson)
Cubocephalus alacris var. *erythropygus* (Cresson)
Cubocephalus annectus Townes
Cubocephalus atriclunis Townes
Cubocephalus brevicornis (Taschenberg)
Cubocephalus denticulatus var. *denticulatus* Townes
Cubocephalus dreisbachi Townes
Cubocephalus euryops Townes
Cubocephalus inhabilis var. *inhabilis* (Provancher)
Cubocephalus maurus (Cresson)
Cubocephalus micans Townes
Cubocephalus nitidus var. *nitidus* (Provancher)
Cubocephalus pallidus var. *spissicornis* (Cresson)
Cubocephalus prolixus var. *prolixus* Townes and Gupta
Echthrus abdominalis var. *abdominalis* Cresson
Echthrus niger var. *emaculatus* Cresson
Gambrus polyphemi Townes
Hidryta frater (Cresson)
Idiolispa analis var. *limata* (Gravenhorst)
Idiolispa analis var. *analis* (Gravenhorst)
Ischnus cinctipes (Walsh)
Ischnus inquisitorius var. *atricollaris* (Muller)
Ischnus latus var. *latus* Townes

Ischnus minor Townes
Listrognathus femorata Townes
Megaplectes monticola var. *blakei* (Cresson)
Mesostenus thoracicus Cresson
Oresbius albicoxus var. *albicoxus* (Provancher)
Oresbius tegularis (Provancher)
Oresbius vultuosus (Townes)
Parmortha circumcincta var. *circumcincta* (Provancher)
Pleolophus indistinctus (Provancher)
Polytribax contiguus (Cresson)
Polytribax crotchii var. *crotchii* (Cresson)
Pycnocyptus director Thunberg
Rhembobius parvus Townes
Schenkia graminicola var. *recta* (Provancher)
Trychosis anagnus Townes
Trychosis cyperia Townes
Trychosis kathrynae Townes
Trychosis montivaga var. *montivaga* Provancher
Trychosis semirubra var. *semirubra* Townes

Subfamily Ichneumoninae

Coelichneumon navus (Say)
Cratichneumon sp.
Hoplismenus morulus (Say)
**Ichneumon devinctor* (Say)
Ichneumon ultimus Cresson
Stenichneumon militarius (Thunberg)

Subfamily Metopiinae

Carria dreisbachi var. *dreisbachi* Townes
Chorinaeus emorsus Townes
Exochus albifrons Cresson
Exochus decoratus var. *scitulus* Holmgren
Exochus nigripalpis var. *tectulum* Thomson
Exochus peroniae Townes
Exochus pictus var. *xanthopsis* Holmgren
Exochus postfurcalis Townes
Exochus washingtonensis (Davis)
Metopius edwardsii Cresson
Metopius pollinctorius var. *pollinctorius* Say
Synosis clepsydra Townes
Triclistus emarginalus (Say)
Trieceles costatus Davis
Trieceles sapineus var. *sapineus* Townes

Subfamily Pimplinae

Acrodactyla degener (Haliday)
Acrodactyla ocellata Townes
Acropimpla alboricta (Cresson)
Apechthis picticornis (Cresson)
Clistopyga canadensis Provancher
Delomerista novita (Cresson)
Delomerista sp.
Dolichomitus imperator (Kriechbaumer)
Dolichomitus irritator (Fabricius)
Dolichomitus n. sp.
Dolichomitus pygmaeus (Walsh)
Dreisbachia slossonae (Davis)
Exeristes comstockii (Cresson)

Iseropus stercorator (Fabricius)
Itopectis conquisitor Say
Itopectis curticauda var. *brevacus* Townes
**Megarhyssa atrata* var. *lineata* Porter.
Megarhyssa greeni var. *greeni* Viereck
Megarhyssa macrurus var. *lunator* Fabricius
Oxyrrhexis carbonator var. *texana* (Cresson)
Perithous mediator var. *pleuralis* (Cresson)
Pimpla aquilonia var. *aquilonius* Cresson
Pimpla macra (Cresson)
Pimpla pedalis Cresson
Pimpla tenuicornis Cresson
Poemenia albipes (Cresson)
Polysphincta burgessii Cresson
Rhyssa crevieri (Provancher)
Rhyssa lineolata (Kirby)
Rhyssa persuasoria (Linnaeus)
Rhyssella nitida (Cresson)
Scambus canadensis Walley
Scambus granulatus Walley
Scambus hispae (Harris)
Scambus productus Walley
Scambus tecumseh Viereck
Scambus vesicarius var. *euurae* (Ashmead)
Schizopyga frigida Cresson
Sinarachna anomala (Holmgren)
Sinarachna pallipes (Holmgren)
Theronia hilaris (Say)
Tromatobia ovivora var. *ovivora* Boheman
Zaglyptus varipes var. *incompletus* (Cresson)
Zatypota exilis Townes
Zatypota nigriceps (Walsh)

Subfamily Poemeniinae

Neoxorides pilulus Townes

Subfamily Tryphoninae

Atopotrophos n. sp.
Cosmoconus sp.
Cteniscus n. sp.
Cteniscus n. sp.
Ctenochira picta Townes
Eclytus sp.
Erromenus marginatus Provancher
Exyston variatus Provancher
Monoblastus dionnei Prov.
Monoblastus macer Townes
Neliopisthus densatus Say
Netelia barberi (Cushman)
Netelia chloris (Olivier)
Netelia deceptor (Morley)
Netelia latungulus (Thomson)
Netelia rogersi Townes
Netelia sayi (Cushman)
Netelia tarsata (Brischke)
Phytodietus sp.
Polyblastus peckae Townes
Polyblastus pedalis (Cresson)

Polyblastus tibialis (Cresson)
Polyblastus wahlbergi Holmgren
Thymaris negligere (Davis)
Tryphon americanus Cresson
Tryphon communis var. *communis* Cresson
Tryphon humeralis Townes
Tryphon viator Townes

Subfamily Xoridinae

Odontocolon atripes (Rohwer)
Odontocolon canadense (Provancher)
Odontocolon dreisbachi Townes
Odontocolon ochropus Townes
Odontocolon strangaliae (Rohwer)
Odontocolon vicinum (Cresson)
Xorides stigmapterus var. *stigmapterus* (Say)

Family Pelecinidae

**Pelecinus polyturator* Drury

Infraorder Aculeata

The Aculeate Hymenoptera include bees, ants, and the ‘true’ wasps. Listings here are from O’Brien (1986, 1988, 1989) and unpublished identifications by M.F. O’Brien from collections by D.C.L. Gosling and M.F. O’Brien (O’Brien 2004).

Family Andrenidae (bees)

Andrena spp.

Family Anthophoridae (cuckoo bees, digger bees, carpenter bees)

Anthophora furcata terminalis Cresson
Anthophora bomboides Kirby
Ceratina spp.
Melissodes illata Lovell & Cockerell
Nomada spp.

Family Apidae (bees)

**Agapostemon radiatus* (Say)
**Apis mellifera* Linnaeus
**Bombus tenerius* (Say)
Bombus vagans Smith
Bombus spp.

Family Chrysididae

Caenochrysis doriae (Gribodo)
Ceratochrysis declinis Bohart
Chrysis cessata Buysson
Chrysis derivata Buysson
Chrysis nitidula Fabr.
Chrysis provancheri Schulz
Chrysura pacifica (Say)
Cleptes speciosus Aaron
Elampus marginatus (Patton)
Elampus viridicyaneus Norton
Hedychridium dimidiatum (Say)
Holopyga ventralis (Say)
Omalus aeneus (F.)
Omalus plicatus (AAron)
Omalus tridescens (Norton)
Omalus janus (Hald.)

Omalus purpuratus (Prov.)

Family Colletidae (plasterer bees)

Colletes spp.

Hylaeus basalis Smith

Hylaeus ellipticus (Kirby)

Hylaeus mesillae cressoni (Cockerell)

Hylaeus modestus Say

Family Formicidae (ants)

**Camponotus herculeanus pennsylvanicus* (Linnaeus)

**Formica fusca subserica* Linnaeus

**Formica sanguinea* Latreille

Family Halictidae (sweat bees)

Agapostemon spp.

Augochlora spp.

Augochlorella spp.

Evylaeus spp.

Dialictus spp.

Lasioglossum spp.

Sphecodes confertus Say

Sphecodes spp.

Family Megachilidae (leafcutting bees, mason bees)

Coelioxys funeraria Smith

Coelioxys moesta Cresson

Coelioxys porterae Cockerell

Coelioxys sodalis Cresson

Chalicodoma campanulae (Robertson)

Heriades carinata Cresson

Heriades leavitti Crawford

Hoplitis albifrons (Kirby)

Hoplitis cylindrica (Cresson)

Hoplitis producta (Cresson)

Megachile frigida Smith

Megachile gemula Cresson

Megachile inermis Provancher

Megachile melanophaea Smith

Megachile pugnata Say

Megachile relativa Cresson

Osmia albiventris (Cresson)

Osmia bucephala Cresson

Osmia lignaria Say

Osmia proxima Cresson

Osmia tersula Cockerell

Family Mutillidae (velvet ants)

Pseudomethoca frigida (Smith)

Family Pompilidae (spider wasps)

Agenoideus humilis (Cresson)

Anoplius matginatus (Say)

Anoplius relativus (Fox)

Anoplius spp.

Aporinellus completus Banks

Aporinellus sp.

Auplopus mellipes variitarsatus (Dalla-Torre)

Calicurgis hyalinatus alienatus (Smith)

Calicurgis sp.

Dipogon sayi Banks

Episyron biguttatus (F.)

Episyron quinquenotatus (Say)
Episyron snowi (Viereck)
Evagetes hyacinthinus (Cr.)
Evagetes parvus (Cr.)
Evagetes spp.
Phanagenia bombycina (Cr.)
Pompilus scelestus Cresson
Pompilus spp.
Priocnemis germana (Cr.)
Priocnemis minorata Banks
Priocnemis nebulosus (Dahlbom)

Family Sapygidae (wasps)

Sapyga sp.

Family Sphecidae (digger wasps)

Subfamily Ampulicinae

Ampulex canaliculata Say

Subfamily Astatinae

Astata leuthstromi Ashmead
Astata unicolor Say
Diploplectron peglowi Krombein

Subfamily Crabroninae

Anacrabro ocellatus Packard
Crabro advena Smith
Crabro argusinus Bohart
Crabro latipes Smith
Crabro tenuis Fox
Crabro monticola (Packard)
Crabro spp.
Crossocerus spp.
Ectemnius decemmaculatus (Say)
Ectemnius dives (L. & B.)
Ectemnius lapidarius (Panzer)
Ectemnius maculosus (Gmelin)
Ectemnius ruficornis (Zetterstedt)
Lestica spp.
Lindenius spp.
Oxybelus bipunctatus Oliv.
Oxybelus niger Robt.
Oxybelus subulatus Robt.
Oxybelus uniglumis (Linn.)
Oxybelus spp.
Rhopalum clavipes (Linn.)
Rhopalum coarctatum (Scopoli)
Rhopalum occidentale (Fox)
Rhopalum spp.

Subfamily Larrinae

Lyroda subita (Say)
Miscophus americanus Fox
Nitela virginiensis Rohwer
Plenoculus davisii Fox
Solierella plenoculoides (Fox)
Tachysphex aethiops Cresson
Tachysphex pompiliformis (Panzer)
Tachysphex semirufus (Cresson)
Tachysphex tarsatus (Say)
Tachysphex similis Rohwer

Tachysphex terminatus (Smith)
Trypoxylon frigidum Smith
Trypoxylon pennsylvanicum Saussure

Subfamily Nyssoninae

Alysson conicus Provancher
Alysson guidhardi Provancher
Alysson oppositus Say
Bembex americana spinolae Lepeletier
Bicyrtes quadrifasciata (Say)
Bicyrtes ventralis (Say)
Gorytes spp.
Mellinus bimaculatus Packard
Nysson spp.
Stictiella emarginata (Cresson)

Subfamily Pemphredoniae

Diodontus adamsi Titus
Diodontus minutus (Fabr.)
Diodontus spp.
Mimesa spp.
Passaloecus areolatus (Vincent)
Passaloecus borealis Dahlbom
Passaloecus cuspidatus Smith
Passaloecus lineatus Vincent
Pemphredon foxii Rohwer
Pemphredon inornata Say
Pemphredon lethifer (Shuckard)
Pemphredon lugubris (Fabr.)
Pemphredon menkei Bohart
Pemphredon montana Dahlb.
Pemphredon pulawskii Dolfuss
Psenulus sp.
Stigmus spp.

Subfamily Philanthinae

Aphilanthops frigidus (Smith)
Cerceris sp.
Philanthus bilunata Cr.
Philanthus lepidus Cresson
Philanthus politus Say
Philanthus solivagus Say

Subfamily Sphecinae

Chalybion californicum (Saussure)
Sceliphron caementarium (Drury)
Podalonia luctuosa (Smith)
Podalonia violaceipennis (Lepeletier)
Ammophila azteca Cameron
Ammophila evansi Menke
Ammophila kennedyi (Murray)
Ammophila mediata Cresson
Ammophila urnaria Dahlbom

Family Tiphidae

Myrmosa unicolor Say
Tiphia micropunctata Allen
Tiphia spp.

Family Vespidae (true wasps)

Ancistrocerus antilope (Panzer)
Ancistrocerus spp.

Dolichovespula arctica (Rohwer)
Dolichovespula arenaria (Fabricius)
Dolichovespula maculata (Linnaeus)
Dolichovespula norvegicoides (L.)
**Eumenes fraterna* Say
Eumenes spp.
Euodynerus spp.
Parancistrocerus pedestris (Saussure)
Parancistrocerus pennsylvanicus (Saussure)
Polistes fuscatus (Fabr.)
Vespula acadica (Sladen)
Vespula austriaca (Panzer)
Vespula consobrina (Saussure)
Vespula flavopilosa Jacobson
Vespula vulgaris (Linn.)
Symmorphus cristatus (Saussure)

Order Mecoptera (scorpionflies)

Family Meropeidae

Merope tuber Newman

Family Panorpidae

**Panorpa rufescens* Rambur

Order Siphonoptera

Order Diptera

Family Acroceridae

Turbopsebius sulphuripes (Loew)

Family Agromyzidae

Amauromyza flavifrons (Meigen)

Liriomyza brassicae (Riley)

Liriomyza lathyri Sengal

Liriomyza robiniae Valley

Nemorimyza posticata (Meigen)

Family Anthomyiidae

Agromyza sulfuriceps Strobl

Chirosia sp.

Pegomya sp.

Family Asilidae

Species not noted by Andrews from collections by Mark O'Brien, University of Michigan (personal communication) and report by O'Connor (1987).

**Asilus sericeus* Say

Hologon sp.

Laphria flavicollis Say

Laphria janus McAtee

Laphria posticata Say

Laphria royalensis (Bromley)

Laphria sacrator Walker

Laphria flavicollis Say

Laphria franciscana Bigot

Laphria index McAtee

Laphria insignis Banks

Laphria sadales Walker

Laphria scorpio McAtee

Machimus sadyates (Walker)
Machimus snowii (Hine)
Machimus virginicus (Banks)
Machinus spp.
Neoitamus flavofemoratus (Hine)
**Proctocanthus philadelphicus* Macquart

Family Athericidae

#*Atherix veriegata* Walker

Family Bombyliidae

**Anthrax lateralis* Marston
**Exoprosopa capucina* (Fabricius)

Family Blephariceridae

#*Blepharicera tenuipes* (Walker)

Family Calliphoridae

**Lucilia caesar* (Linnaeus)
**Lucilia sericata* (Meigen)

Family Ceratopogonidae

#*Probezzia* sp.
#*Serromya* sp.

Family Chironomidae

Subfamily Chironominae

#*Cryptochironomus* sp.
#*Demicryptochironomus* sp.
#*Micropsectra* sp.
#*Microtendipes pedullus* (DeGeer)
#*Nilothauma* sp.
#*Polypedilum aviceps* Townes
#*Polypedilum convictum* (Walker)
#*Polypedilum laetum* (Meigen)
#*Rheotanytarsus* spp.
#*Robackia demeijerei* (Kruseman)
#*Stempellina* sp.

Subfamily Diamesinae

#*Diamesa* sp.
#*Pothastia longimana* (Kieffer)

Subfamily Orthocladiinae

#*Chaetocladius* sp.
#*Corynoneura* sp.
#*Cricotopus trifascia* Edwards
#*Cricotopus vierriensis* Goetghebuer
#*Cricotopus/Orthocladius* sp.
#*Eukiefferiella claripennis* Lundbeck
#*Eukiefferiella coerulescens* Kieffer
#*Eukiefferiella devonica* (Edwards)
#*Eukiefferiella discoloripes* (Kieffer)
#*Eukiefferiella gracei* (Edwards)
#*Georthocladius* sp.
#*Lopescladius hyporheicus* Coffman and Roback
#*Nanocladius rectinervis* (Kieffer)
#*Orthocladius carlatus* (Roback)
#*Rheocricotopus atripes* (Kieffer)
#*Smittia* sp.
#*Synorthocladius* sp.
#*Thienemanniella* sp.
#*Tvetenia paucunca* (Saether)

Subfamily Tanypodinae

#*Conchapelopia americana* Fittkau

#*Conchapelopia* sp.

#*Helopelopia* sp.

#*Nilotanypus* sp.

#*Rheopelopia* sp.

#*Thienemannimyia* grp.

Family Drosophilidae

Amiota humeralis Loew

Amiota leucostoma Loew

Amiota minor (Malloch)

Chymomyza amoena (Loew)

Drosophila affinis Sturtevant

Drosophila algonquin Sturtevant and Dobzhansky

Drosophila athabasca Sturtevant and Dobzhansky

Drosophila busckii Coquillett

Drosophila falleni Wheeler

Drosophila immigrans Sturtevant

Drosophila melanogaster Meigen [non-indigenous]

Drosophila neotestacea Grimaldi, James & Jaenike

Drosophila paramelanica Griffin

Drosophila putrida Sturtevant

Drosophila recens Wheeler

Drosophila robusta Sturtevant

Drosophila suzukii Matsumura [non-indigenous]

Drosophila tripunctata Sturtevant

Hirtodrosophila duncani (Sturtevant)

Mycodrosophila claytonae Wheeler and Takada

Scaptomyza sp

Family Empididae

#*Chelifera* sp.

#*Hemerodromia* sp.

Family Lonchaeidae

Lonchaea sp.

Family Muscidae

**Musca domestica* Linnaeus

**Stomoxys calcitrans* Linnaeus

Family Rhagionidae

**Chrysopilus ornatus* (Say)

Family Sarcophagidae

Metopia sp.

**Sarcophaga sarraceniae* Riley

Family Simuliidae

#*Prosimulium fuscum* Syme and Davies

#*Simulium tuberosum* (Lundstrom)

#*Simulium venustum* Say

#*Simulium vittatum* Vitterstedt

Family Stratiomyidae

**Stratiomys badia* Walker

**Stratiomys discalis* Loew

Family Syrphidae

Syrphid flies not recorded by Andrews are from an unpublished reports by Waldbauer (1983) and O'Connor (1987).

Blera sp.

Brachypalpus oarus (Walker)

Chalcosyrphus vecors (Osten Sacken)
Chrysotoxum spp.
Doros aequalis Loew
Eristalis bastardii Maeq.
Eristalis dimidiatus Wied.
Eristalis sp.
 **Eristalis tenax* (L.)
Eristalis transversus Wied.
Helophilus borralis Staeger
 **Helophilus fasciatus* Walk.
Leucozona lucorum (L.)
Mallota bautias (Walker)
Mallota posticata (Fab.)
Microdon spp.
Sericomyia bifasciata Willison
Sericomyia chrysotoxoides Macquart
Sericomyia lata (Coquillett)
 **Sericomyia militaris* Walk.
 **Somula decora* Macquart
Sphecomyia vittata (Widemann)
Spilomyia fusca Loew
Syrphus sp.
Temnostoma alternans Loew
Temnostoma balyras (Walker)
Temnostoma barberi Shannon
Temnostoma venustum Willison
Temnostoma vespiforme (L.)
 **Volucella evecta* Walker

Family Tabanidae

Tabanids not listed by Andrews are from an unpublished 1984 list by Pechuman and from collections by Mark O'Brien.

Atylotus duplex (Walker)
Atylotus sphagnicolus Teskey
 **Chrysops excitans* Walker
Chrysops aberrans Philip
Chrysops ater Macq.
Chrysops calvus Pechuman & Teskey
Chrysops carbonarius Walker
Chrysops cincticornis walker
Chrysops dawsoni Philip
Chrysops excitans Walker
Chrysops frigidus Osten Sacken
Chrysops indus Osten Sacken
Chrysops mitis Osten Sacken
Chrysops montanus Osten Sacken
Chrysops sackeni Hine
Chrysops sordidus Osten Sackem
Chrysops shermani Hine
Chrysops univittatus Macq.
Chrysops venus Philip
Chrysops vittatus Wied.
Chrysops zinzalus Philip
Hybomitra affinis (Kirby)
Hybomitra arpasi (Szil.)

Hybomitra criddlei (Brooks)
Hybomitra epistates (Osten Sacken)
Hybomitra frosti Pechuman
Hybomitra microcephalus Osten Sacken
Hybomitra hinei (John.)
Hybomitra illota (Osten Sacken)
Hybomitra lasiophthalma (Macq.)
Hybomitra lurida (Fallen)
Hybomitra microcephala (Osten Sacken)
Hybomitra nitidifrons nuda (McD.)
Hybomitra pechumani Teskey & Thomas
Hybomitra sodalis (Williston)
Hybomitra trepida (McD.)
**Hybomitra trispilus* (Wiedemann)
Hybomitra zonalis (Kirby)
Stonemyia tranquilla Osten Sacken
**Tabanus atratus* Fabricius
Tabanus catenatus Walker
Tabanus marginalis Fabr.
Tabanus novaescotiae Macquart
Tabanus sagax Sacken

Family Tachinidae

**Archytas analis* (Fabricius)

Family Tipulidae

#*Antocha* sp.
#*Dicranota* sp.
#*Hexatoma* sp. A
#*Hexatoma* sp. B
#*Hexatoma* sp. C
#*Hexatoma* sp. D
#*Ormosia* sp.
#*Pseudolimmophila* sp.
#*Tipula abdominalis* Say
#*Tipula caloptera* Loew

Order Megaloptera

Family Corydalidae

#*Corydalus cornutus* (Linnaeus)

Order Trichoptera

Listings for Trichoptera – the caddisflies – were updated, with over 100 species added, by Houghton (unpublished reports, 2015,2019)

Family Brachycentridae

#*Brachycentrus americanus* (Banks)
#*Brachycentrus numerosus* (Say)
Micrasema wataga Ross

Family Dipseudopsidae

Phylocentropus placidus (Banks)

Family Glossomatidae

Glossosoma intermedium (Klapalek)
#*Glossosoma nigrior* Banks
#*Protoptila tenebrosa* (Walker)

Family Goeridae

Goera stylata Ross

Family Helicopsychidae

Helicopsyche borealis (Hagen)

Family Hydropsychidae

#*Arctopsyche ladogensis* (Kolenati)

Cheumatopsyche campyla Ross

Cheumatopsyche gracilis (Banks)

Cheumatopsyche oxa Ross

Cheumatopsyche pettiti (Banks)

Cheumatopsyche sordida (Hagen)

Hydropsyche alhedra (Ross)

Hydropsyche betteni Ross

Hydropsyche morosa (Hagen)

Hydropsyche vexa Ross

Hydropsyche slossonae (Banks)

Hydropsyche sparna (Ross)

Hydropsyche walkeri (Betten and Mosely)

Macrostemum zebratum (Hagen)

Parapsyche apicalis (Banks)

Potamyia flava (Hagen)

Family Hydroptilidae

Agraylea multipunctata Curtis

Hydroptila amoena Ross

Hydroptila ampoda Ross

Hydroptila consimilis Morton

Hydroptila hamata Morton

Hydroptila jackmanni Blickle

Hydroptila salmo Ross

Hydroptila tortosa Ross

Hydroptila valhalla Denning

Hydroptila waubesiana Betten

Hydroptila xera Ross

Ithytrichia clavata Morton

#*Leucotrichia pictipes* (Banks)

Mayatrichia ayama Mosely

Neotrichia halia Denning

Ochrotrichia tarsalis (Hagen)

Orthotrichia baldufi Kingsolver & Ross

Orthotrichia cristata Morton

Orthotrichia curta Kingsolver & Ross

Oxyethira araya Ross

Oxyethira coerscens Morton

Oxyethira forcipata Mosely

Oxyethira michiganensis Mosely

Oxyethira obtatus Denning

Oxyethira rivicola Blickle and Morse

Oxyethira verna Ross

Family Lepidostomatidae

Lepidostoma bryanti (Banks)

Lepidostoma griseum (Banks)

Lepidostoma sackeni (Banks)

Lepidostoma togatum (Hagen)

Lepidostoma unicolor (Banks)

Lepidostoma vernale (Banks)

Family Leptoceridae

Ceraclea alagma (Ross)

Ceraclea ancylus (Vorhies)

Ceraclea arielles (Denning)
Ceraclea cancellata (Betten)
#*Ceraclea diluta* (Hagen)
Ceraclea flava (Banks)
Ceraclea maculata (Banks)
#*Ceraclea punctata* (Banks)
Ceraclea resurgens (Walker)
Ceraclea tarsipunctata (Vorhies)
Ceraclea transversa (Hagen)
Leptocerus americanus (Banks)
Mystacides interjecta (Banks)
Mystacides sepulchralis (Walker)
Nectopsyche exquisita (Walker)
Nectopsyche pavidata (Hagen)
Nectopsyche albida (Walker)
Oecetis avara (Banks)
Oecetis cinerascens (Hagen)
Oecetis disjuncta (Banks)
Oecetis immobilis (Hagen 1
#*Oecetis inconspicua* (Walker)
Oecetis osteni Milne
Oecetis persimilis (Banks)
Setodes incertus (Walker)
Triaenodes abus Milne
Triaenodes baris Ross
Triaenodes dipsius Ross
Triaenodes ignitus (Walker)
Triaenodes injustus (Hagen)
Triaenodes marginatus Sibley
Triaenodes perna Ross
Triaenodes tardus Milne

Family Limnephilidae

Anabolia bimaculata (Walker)
Anabolia consocia (Walker)
Asynarchus montanus (Banks)
Asynarchus rossi (Leonard & Leonard)
Hesperophylax designatus (Walker)
Hydatophylax argus (Harris)
Ironoquia lyrata (Ross)
Lenarchus crassus Banks
Limnephilus indivisus Walker
Limnephilus infernalis (Banks)
Limnephilus moestus Banks
Limnephilus ornatus Banks
Limnephilus rhombicus (Linnaeus)
Limnephilus sericeus (Say)
Limnephilus submonilifer Walker
Limnephilus thorax Ross
Nemotaulius hostilis (Hagen)
Onocosmoecus unicolor (Banks)
Platycentropus radiatus (Say)
Pseudostenophylax sparsus (Banks)
Pycnopsyche aglona Ross
Pycnopsyche antica (Walker)
Pycnopsyche circularis (Provancher)
Pycnopsyche guttifer (Walker)

Pycnopsyche lepida (Hagen)
Pycnopsyche limbata (MacLachlan)
Pycnopsyche subfasciata (Say)

Family Molannidae

Molanna blenda Sibley
Molanna flavicornis Banks
Molanna tryphena Betten
Molanna uniophila Vorhies

Family Odontoceridae

Psilotreta indecisa (Walker)

Family Philopotamidae

#*Chimarra atterima* Hagen
#*Chimarra obscura* (Walker)
Chimarra feria Ross
#*Dolophilodes distinctus* (Walker)
Wormaldia moesta (Banks)

Family Phryganeidae

Agrypnia improba (Hagen)
Agrypnia vestita (Walker)
Banksiola crotchi (Banks)
Banksiola dossuaria (Banks)
Hagenella canadensis (Banks)
Phryganea cinerea Walker
Ptilostomis ocellifera (Walker)
Ptilostomis semifasciata (Say)

Family Polycentropodidae

*Cernotina pallida** (Banks)
Neureclipsis crepuscularis (Walker)
Nyctiophylax affinis (Banks)
Nyctiophylax moestus Banks
Plectrocnemia cinerea (Hagen)
Plectrocnemia icula Ross
Polycentropus albipunctus (Banks)
Polycentropus aureolus (Banks)
Polycentropus centralis Banks
Polycentropus clinei (Milne)
Polycentropus confusus Hagen
Polycentropus flavus (Banks)
Polycentropus iculus Ross
Polycentropus interruptus (Banks)
Polycentropus pentus Ross
Polycentropus remotus Banks
Polycentropus sabulosus Leonard and Leonard

Family Psychomyiidae

Lype diversa (Banks)
Psychomyia flavida Hagen

Family Rhyacophilidae

#*Rhyacophila fuscula* (Walker)

Family Sericostomatidae

Agarodes distinctus (Ulmer)

Family Uenoidae

Neophylax concinnus MacLachlan
Neophylax oligius Ross

Order Lepidoptera

Suborder Heterocera

Family Arctiidae

Family Argyresthiidae

Argyresthia sp

Family Bucculatricidae

Bucculatrix ainsliella Murteldt

Bucculatrix canadensisella Chambers

Family Coleophoridae

Coleophora sp

Family Cossidae

Acossus centerensis (Lintner)

Prionoxystus robiniae (Peck)

Family Crambidae

Agriphila vulvivagella (Clemens)

Anania funebris (Ström)

Elophila icciusalis (Walker)

Evergestis pallidata (Hufnagel)

Anania tertialis (Guenée)

Catoptria latiradiellus (Walker)

Chrysoteuchia topiarius (Zeller)

Crambus agitatellus Clemens

Crambus bidens Zeller

Crambus leachellus (Zincken)

Crambus pascuella (Linnaeus)

Crambus perlilla (Scopoli)

Crambus praefectellus (Zincken)

Diathrausta reconditalis (Walker)

Donacaula melinellus (Clemens)

Fumibotys fumalis (Guenée)

Herpetogramma abdominalis (Zeller)

Herpetogramma aeglealis (Walker)

Herpetogramma pertextalis (Lederer)

Loxocrambus awemensis McDunnough

Loxostege cerealis (Zeller)

Lygropia rivulalis Hampson

Metrea ostreonalis Grote

Microcrambus elegans (Clemens)

Nomophila nearctica Munroe

Palpita magniferalis (Walker)

Parapoynx allionealis (Walker)

Parapoynx badiusalis (Walker)

Parapoynx maculalis (Clemens)

Parapoynx obscuralis (Grote)

Pediasia dorsipunctellus (Kearfott)

Pediasia trisecta (Walker)

Sitochroa chortalis (Grote)

Sitochroa palealis (Denis & Schiffermüller)

Family Drepanidae

Drepana arcuata Walker

Drepana bilineata (Packard)

Habrosyne gloriosa (Guenée)

Habrosyne scripta (Gosse)

Oreta rosea (Walker)

Pseudothyatira cymatophorides (Gosse)

Family Erebiidae

Following significant taxonomic reorganization, Erebidae now includes a number of genera previously assigned to Noctuidae, and all of the former Arctiidae and Lymantriidae, and probably some others.

Arctia caja Schrank
Bleptina caradrinalis Guenée
Caenurgina crassiuscula (Hayworth)
Calyptra canadensis (Bethune)
Catocala blandula Hulst
**Catocala briseis* Edwards (underwing)
Catocala coelebs Grote
Catocala cerogama Guenée
Catocala concumbens Walker
Catocala crataegi Saunders
Catocala ilia Cramer
Catocala parta Guenée
*Catocala relict*a Walker
*Catocala semirelict*a Grote
Catocala sordida Grote
Catocala ultronia (Hübner)
* *Catocala unijuga* Walker (underwing)
Chytolita morbidalis (Guenée)
Chytolita petrealis (Guenée)
Cisseps fulvicollis (Hübner)
Clemensia albata Packard
Crambidia costa (Packard)
Crambidia pallida Packard
Ctenucha virginica (Esper)
Cyenia oregonensis (Stretch)
Dasychira pinicola (Dyar)
Dasychira plagiata Walker
Dasychira vagans (Barnes & McDunnough)
Eilema bicolor (Grote)
Grammia parthenice intermedia Kirby
Grammia virgo (Linnaeus)
Halysidota tessellaris Smith
Haploa confusa (Lyman)
Haploa contigua (Walker)
Haploa lecontei Guérin-Méneville
Hypena abalienalis Walker
Hypena baltimoralis (Guenée)
Hypena bijugalis (Walker)
Hypena deceptalis Walker
Hypena edictalis Walker
Hypena eductalis Walker
Hypenodes caducus (Dyar)
Hypenodes fractilinea (Smith)
Hyphantria cunea Drury
Hypoprepia fucosa Hübner
Hypoprepia miniata Kirby
Idia aemula Hübner
Idia americalis Guenée
Idia denticulalis (Harvey)
Idia laurentii (Smith)
Idia lubricalis (Geyer)
Idia rotundalis Walker
Idia scobialis (Grote)

Idia terrebralis Barnes & McDunnough
Lophocampa maculata Harris
Lymantria dispar (Linnaeus) (gypsy moth) [*non-indigenus*]
Macrochilo absorptalis (Walker)
Macrochilo orciferalis (Walker)
Manulea bicolor (Grote)
Metelectra quadrisignata (Walker)
Orgyia definita (Packard)
Orgyia leucostigma (J.E. Smith)
Palthis angulalis (Hübner)
Pangrapta decoralis Hübner
Parallelia bistriaris Hübner
Phalaenophana pyramusalis (Walker)
Phalaenostola eumelusalis (Walker)
Phalaenostola larentioides Grote
Phalaenostola metonalis (Walker)
Phragmatobia assimilans Walker
Phragmatobia fuliginosa (Linnaeus)
Platarctia parthenos (Harris)
Pyrrharctia isabella (J.E. Smith)
Renia flavipunctalis Geyer
Scoliopteryx libatrix (Linnaeus)
Spilosoma dubia (Walker)
Spilosoma virginica (Fabricius)
Tathorhynchus exsiccata (Lederer)
Virbia aurantiaca (Hübner)
Virbia ferruginosa (Walker)
Virbia laeta (Guérin-Ménéville)
Zale aeruginosa (Guenée)
Zale duplicata (Bethune)
Zale helata (Smith)
Zale lunata (Drury)
Zale minerea (Guenée)
Zale squamularis (Drury)
Zale submediana Strand
Zanclognatha cruralis (Guenée)
Zanclognatha jacchusalis (Grote)
Zanclognatha laevigata (Grote)
Zanclognatha marcidilinea (Walker)
Zanclognatha martha Barnes
Zanclognatha pedipalis (Guenée)
Zanclognatha protumnusalis (Walker)
Zanclognatha theralis (Walker)
Zanclognatha sp.nov.

Family Eriocraniidae

Eriocrania semipurpurella (Stephens)

Family Gelechiidae

Metzneria lappella (L.)

Family Geometridae

Aethalura intertexta (Walker)
Biston betularia cognataria (Guenée)
Cabera erythemera Guenée
Cabera variolaria Guenée
Campaea perlata Guenée
Caripeta angustiorata Walker
Caripeta divisata Walker

Caripeta piniata (Packard)
Cepphis armataria (Herrich-Schäffer)
Chlorochlamys chloroleucaria (Guenée)
Cladara atroliturata (Walker)
Costaconvexa centrostrigaria (Wollaston)
Cyclophora pendulinaria (Guenée)
Digrammia continuata (Walker)
Digrammia neptaria (Guenée)
Dysstroma hersiliata (Guenée)
Dysstroma truncate (Hufnagel)
Ectropis crepuscularia (Denis & Schiffermüller)
Ennomos magnaria Guenée
Ennomos subsignaria Hübner
Entephria separata Troubridge
Epirrhoe alternata (Müller)
Eubaphe mendica (Walker)
Euchlaena madusaria (Walker)
Euchlaena madusaria (Walker)
Euchlaena muzaria (Walker)
Euchlaena irraria (Barnes & McDunnough)
Euchlaena johnsonaria (Fitch)
Euchlaena obtusaria (Hübner)
Euchlaena serrata (Drury)
Euchlaena tigrinaria (Guenée)
Eufidonia convergaria (Walker)
Eufidonia discospilata (Walker)
Eufidonia notataria (Walker)
Eulithis explanata (Walker)
Eulithis flavibrunneata (McDunnough)
Eulithis gracilineata (Guenée)
Eulithis testata (Linnaeus)
Eulithis xylene (Hulst)
Euphyia intermediata (Guenée)
Eupithecia miserulata Grote
Eutrapela clemataria (J.E. Smith)
Haematopis grataria (Fabricius)
Homochlodes disconventa (Walker)
Homochlodes fritillaria (Guenée)
Homochlodes lactispargaria Dyar
Horisme intestinata (Guenée)
Hydrelia inornata (Hulst)
Hydriomena divisaria (Walker)
Hydriomena perfracta Swett
Hydriomena renunciata (Walker)
Hydriomena transfigurata Swett
Hypagyrtis piniata (Packard)
Hypagyrtis unipunctata (Haworth)
Idaea dimidiata Hufnagel
Iridopsis ephyraria (Walker)
Iridopsis larvaria (Guenée)
Lambdina fiscellaria (Guenée)
Lobophora nivigerata Walker
Lomographa glomeraria (Grote)
Lomographa vestaliata (Guenée)
Macaria anataria Swett
Macaria bisignata Walker

Macaria fissinotata (Walker)
Macaria masquerata Ferguson
Macaria minorata Packard
Macaria oweni (Swett)
Macaria pinistrobata Guenée
Macaria signaria (Hübner)
Macaria transitaria (Walker)
Melanolophia canadaria (Guenée)
Melanolophia signataria (Walker)
Metanema determinata Walker
Metanema inatomaria Guenée
Metarranthis amyrisaria (Guenée)
Metarranthis duaria (Guenée)
Metarranthis refractaria (Guenée)
Metarranthis indeclinata (Walker)
Nematocampa resistaria Herrich-Schäffer
Nemoria mimosaria (Guenée)
Nemoria rubrifrontaria (Packard)
Nepytia canosaria Walker
Nepytia pellucidaria (Packard)
Orthonama obstipata (Fabricius)
Pasiphila rectangulata (Linnaeus)
Perizoma basaliata (Walker)
Pero ancetaria (Hübner)
Pero morrisonaria (Henry Edwards)
Petrophora subaequaria (Walker)
Plagodis alcoolaria (Guenée)
Plagodis kuetzingi (Grote)
Plagodis phlogosaria (Guenée)
Plagodis serinaria Herrich-Schäffer
Plemyria georgii Hulst
Pleuroprucha insulsaria (Guenée)
Probole alienaria Herrich-Schäffer
Probole amicarica (Herrich-Schäffer)
Probole sp. nov.
Prochoerodes lineola (Goeze)
Prochoerodes transversata (Drury)
Protoarmia porcelaria (Guenée)
Rheumaptera hastata (Linnaeus)
Rheumaptera prunivorata Ferguson
Scopula cacuminaria (Morrison)
Scopula frigidaria (Möschler)
Scopula junctaria (Walker)
Scopula limboundata (Haworth)
Selenia kentaria (Grote & Robinson)
Semiothisa bisignata Hübner
Sicya macularia (Harris)
Spargania magnoliata Guenée
Speranza andersoni (Swett)
Speranza argillacearia (Packard)
Speranza brunneata (Thunberg)
Speranza evagaria (Hulst)
Speranza loricaria (Eversman)
Speranza occiduaria (Packard)
Speranza pustularia (Guenée)
Speranza sulphurea (Packard)

Synchlora aerata albolineata Packard
Tacparia atropunctata (Packard)
Tacparia deterrenta (Guenée)
Tetracis cachexiata Guenée
Tetracis crocallata Guenée
Thera contractata (Packard)
Trichodezia albobittata (Guenée)
Triphosa haesitata (Guenée)
Xanthorhoe decoloraria (Esper)
Xanthorhoe ferrugata Clerck
Xanthorhoe lacustrata (Packard)
Xanthorhoe iduata (Guenée)
Xanthorhoe packardata McDunnough
Xanthotype sospeta (Drury)
Xanthotype urticaria Swett

Family Gracillariidae

Acrocercops astericola (Frey and Boll)
Caloptilia syringella (Fab.)
Cameraria sp.
Cameraria aceriella (Clemens)
Cameraria bethunella (Chambers)
Cameraria betulivora (Walsingham)
Cameraria corylisella (Chambers)
Cameraria fletcherella (Braun)
Cameraria lentella (Braun)
Cameraria ostryarella (Chambers)
Leucanthiza dircella Braun
Micrurapteryx occulta
Parectopa sp.
Parectopa occulta Braun
Parectopa robiniella Clemens
Parornix sp.
Phyllocnistis populiella Chambers
Phyllonorycter sp.
Phyllonorycter clemensella (Chambers)
Phyllonorycter ledella (Walsingham)
Phyllonorycter lucidicostella (Clemens)
Phyllonorycter lucetiella (Clemens)
Phyllonorycter martiella (Braun)
Phyllonorycter ostryaefolia (Clemens)
Phyllonorycter robiniella (Clemens)
Phyllonorycter tilliacella (Chambers)
Protolithocolletis lathyri Braun

Family Hepialidae

Korscheltellus gracillis (Grote)
Sthenopsis argenteonaculatus (Harris)

Family Lasiocampidae

Malacosoma americana (Fabricius)
Malacosoma disstria Hübner
Phylloidesma americana (Harris)
Tolype laricis (Fitch)
Tolype velleda (Stoll)

Family Limacodidae

Lithacodes fasciola (Herrich-Schäffer)
Tortricidia flexuosa Grote
Tortricidia testacea Packard

Family Nepticulidae

Glaucolepis saccharella Braun

Stigmella quercipulchella (Chambers)

Family Noctuidae

The traditional Noctuidae -- the largest family of moths with over 35,000 species known -- is certainly paraphyletic. Reorganization of the family is under way, but there does not yet seem to be clear agreement on how the family should be restructured. Some genera here are likely to be reassigned to Erebidae, and some sub-families will be elevated to family status; I have not fully integrated current thinking on Noctuidae, but have incorporated generic reassignments as encountered in updates.

Abagrotis alternata (Grote)

Abagrotis brunneipennis Grote

Abogrotis cupida Grote

Abagrotis cryptica LaFontaine

Abagrotis orbis (Grote)

Achatia distincta Hübner

Acronicta betulae (Riley)

Acronicta dactylina Grote

Acronicta fragilis (Guenée)

Acronicta funeralis Grote & Robinson

Acronicta grisea Walker

Acronicta impressa Walker

Acronicta increta Morrison

Acronicta innotata Guenée

Acronicta interrupta Guenée

Acronicta lobeliae Guenée

Acronicta modica Walker

Acronicta morula Grote & Robinson

Acronicta retardata (Walker)

Acronicta sperata Grote

Acronicta tritona (Hübner)

Acronicta vulpina (Grote)

Actebia fennica (Tauscher)

Agnorisma bugrai (Kocak)

Agrochola bicolorago Guenée

Agrotis ipsilon Hufnagel

Agrotis venerabilis Walker

Agrotis vetusta (Walker)

Agrotis volubilis Harvey

Amphipoea americana (Speyer)

Amphipyra glabella (Morrison)

Amphipyra pyramidoides Guenée

Amphipyra tragopoginis (Clerck)

Anagrapha falcifera (Kirby)

Anaplectoides pressus (Grote)

Anarta obesula (Smith)

Anathix ralla (Grote & Robinson)

Anhimella contrahens (Walker)

Anicla forbesi (Franclemont)

Anicla illapsa (Walker)

Apamea alia (Guenée)

Apamea amputatrix (Fitch)

Apamea apamiformis (Guenée)

Apamea cogitate (Smith)

Apamea devastator Brace

Apamea dubitans (Walker)
Apamea indocilis (Walker)
Apamea inficita (Walker)
Apamea lignicolora (Guenée)
Apamea ophiogramma Esper
Apamea plutonia (Grote)
Apamea scoparia Mikkola, Mustelin & Lafontaine
Apamea sordens finitima Hufnagel
Apamea unanimitis (Hübner)
Aplectoides condita (Guenée)
Aplectoides prasina (Denis & Schiffermüller)
Athetis tarda (Guenée)
Autographa ampla (Walker)
Autographa bimaculata (Stephens)
Autographa flagellum (Walker)
Baileya doubledayi (Guenée)
Baileya ophthalmica (Guenée)
Bellura obliqua (Walker)
Bellura vulnifica Grote
Balsa labecula (Grote)
Callopietria cordata (Ljungh)
Callopietria mollissima (Guenée)
Calophasia lunula (Hufnagel)
Calyptra canadensis Bethune
Capsula subflava (Grote)
Celaena reniformis (Grote)
Chrysanympha formosa (Grote)
Chrysodeixis includes (Walker)
Chytonix palliatricula (Guenée)
Chytonix sensilis Grote
Coenophila opacifrons (Grote)
Conservula anodonta (Guenée)
Cosmia calami (Harvey)
Crocigrapha normani (Grote)
Cryptocala acadensis (Bethune)
Dargida diffusa (Walker)
Deltote bellicular (Hübner)
Diachrysia aereoides Grote
Diachrysia balluca Geyer
Diarsia jucunda (Walker)
Diarsia rosaria freemani (Grote)
Diarsia rubifera (Grote)
Elaphria alapallida Pogue & Sullivan
Elaphria georgei (Moore and Rawson)
Elaphria versicolor (Grote)
Eosphropteryx thyatyroides Dyar
Epiglaea apiata (Grote)
Eremobina leucoscelis (Grote)
Eueretagrotis attenta (Grote)
Eueretagrotis perattentus (Grote)
Eueretagrotis sigmoides (Guenée)
Eupsilia morrisoni (Grote)
Eupsilia tristigmata (Grote)
Eurois astricta Morrison
Eurois occulta (Linnaeus)
Euxoa adumbrata thanatologia (Dyar)

Euxoa declarata (Walker)
Euxoa detersa (Walker)
Euxoa divergens (Walker)
Euxoa messoria (Harris)
Euxoa ochrogaster (Guenée)
Euxoa perpolita (Morrison)
Euxoa redimicula (Morrison)
Euxoa scandens (Riley)
Euxoa sinelinea Hardwick
Euxoa tessellata (Harris)
Feltia geniculata (Grote & Robinson)
Feltia jaculifera (Guenée)
Feltia herilis (Grote)
Feltia mollis (Walker)
Feltia subterranea (Fabricius)
Feltia subgothica (Haworth)
Feralia comstocki (Grote)
Feralia jocosa (Guenée)
Feralia major (J. B. Smith)
Galgula partita Guenée
Graphiphora augur Ochseneheimer
Harrisimemna trisignata (Walker)
Helicoverpa zea (Boddie)
Helotropha reniformis (Grote)
Hormothodes furfurata (Grote)
Hydraecia immanis Guenée
Hydraecia stramentosa Guenée
Hypocoena inquinata (Guenée)
Hyppa xylinoides (Guenée)
Ipimorpha pleonectusa Grote
Lacanobia grandis (Guenée)
Lacanobia nevadae (Grote)
Lacanobia radix (Walker)
Lacanobia subjuncta (Grote & Robinson)
Lacinipolia anguina (Grote)
Lacinipolia lorea (Guenée)
Lacinipolia lustralis (Grote)
Lacinipolia olivacea (Morrison)
Lacinipolia renigera (Stephens)
Lacinipolia vicina (Grote)
Lateroligia ophiogramma (Esper)
Leucania commoides Guenée
Leucania insueta Guenée
Leucania linda Franclemont
Leucania multilinea Walker
Leucania pseudargyria Guenée
Leuconycta diptheroides (Guenée)
Lithacodia muscosula (Guenée)
Lithomoia solidaginis (Morrison)
Lithophane baileyi (Grote)
Lithophane hemina Grote
Lithophane innominata (Smith)
Lithophane patefacta (Walker)
Lithophane semiusta Grote
Lithophane tepida Grote
Loscopia velata (Walker)

Lycophotia phyllophora (Grote)
Magus divaricate (Grote)
Maliattha concinnimacula (Guenée)
Maliattha synochitis (Grote & Robinson)
Megalographa biloba (Stephens)
Melanchra adjunct (Guenée)
Melanchra assimilis (Morrison)
Melanchra pulverulenta (Smith)
Meropleon diversicolor (Morrison)
Mesapamea fractilinea (Grote)
Morrisonia confusa (Hübner)
Morrisonia evicta (Grote)
Morrisonia latex (Guenée)
Mythimna oxygala (Grote)
Mythimna unipuncta (Hawthorn)
Nedra ramosula (Guenée)
Neoligia exhausta (Smith)
Neoligia subjuncta (Smith)
Nephelodes minians Guenée
Noctua pronuba (Linnaeus)
Ochropleura implecta Lafontaine
Ochropleura plecta Linnaeus
Ogdoconta cinereola (Guenée)
Oligia bridghamii (Grote & Robinson)
Oligia minuscula (Morrison)
Oligia modica (Guenée)
Oligia chlorostigma (Harvey)
Orthodes crenulata Butler
Orthodes cynica Guenée
Orthodes detracta (Walker)
Orthodes goodelli (Grote)
Orthosia hibisci (Guenée)
Orthosia revicta (Morrison)
Pangrapta decoralis Hübner
Panthea furcilla (Packard)
Panthea acronyctoides (Walker)
Papaipema appassionata (Harvey)
Papaipema pterisii Bird
Papaipema unimoda frigida Smith
Papestra biren (Goeze)
Papestra quadrata (Smith)
Peridroma saucia (Hübner)
Phalaenostola hanhami (Smith)
Phalaenostola metonalis (Walker)
Phlogophora periculosa Guenée
Phosphila turbulenta Hübner
Photodes panatela (Smith)
Platyperigea multifera (Walker)
Platypolia mactata (Guenée)
Plusia contexta Grote
Plusia venusta Walker
Polia imbrifera (Guenée)
Polia nimbosa (Guenée)
Polia purpurissata (Grote)
Protodeltote albidula (Guenée)
Protodeltote muscosa (Guenée)

Protolampra rufipectus (Morrison)
Protorthodes oviduca (Guenée)
Proxenus miranda (Grote)
Pseudeustrotia carneola (Guenée)
Pseudeva purpurigera Walker
Pseudohermonassa bicarnea (Guenée)
Pseudohermonassa tenuicula (Morrison)
Pyreferra hesperidago (Guenée)
Pyrrhia exprimens (Walker)
Raphia frater Grote
Renia flavipunctalis Geyer
Rivula propinquialis Guenée
Schinia florida Guenée
Scoliopteryx libatrix (Linnaeus)
Sideridis maryx (Guenée)
Sideridis rosea (Harvey)
Spaelotis clandestina (Harris)
Spiramater lutra (Guenée)
Spodoptera frugiperda (J.E. Smith)
Striacosta albicosta (Smith)
Sympistis chionanthi (J.E. Smith)
Sympistis dentata (Grote)
Syngrapha abstrusa Eichlin & Cunningham
Syngrapha altera (Ottolengui)
Syngrapha octoscripta (Grote)
Syngrapha cryptica Eichlin & Cunningham
Syngrapha rectangula (Kirby)
Syngrapha selecta (Walker)
Syngrapha viridisigma (Grote)
Tricholita signata (Walker)
Trichordestra legitima (Grote)
Trichordestra tacoma (Strecker)
Trichosilia mollis (Walker)
Ulolonche modesta (Morrison)
Xestia badicollis Grote
Xestia dilucida Morrison
Xestia dolosa Franclemont
Xestia homogena (McDunnough)
Xestia normanianus (Grote)
Xestia oblata (Morrison)
Xestia praevia Lafontaine
Xestia smithii (Snellen)
Xylena cineritia (Grote)
Xylena curvimacula (Morrison)
Xylomoia chagnoni Barnes & Benjamin
Xylotype arcadia Barnes & Benjamin

Family Nolidae

Nycteola cinereana Neumoegen & Dyar
Nycteola metaspilella (Walker)

Family Notodontidae

Clostera albosigma Fitch
Datana ministra (Drury)
Furcula cinerea (Walker)
Furcula occidentalis (Lintner)
Gluphisia avimacula Hudson
Gluphisia lintneri (Grote)

Gluphisia septentrionis Walker
Heterocampa guttivitta (Walker)
Heterocampa umbrata Walker
Lochmaeus manteo Doubleday
Nadata gibbosa (J.E. Smith)
Odontesia elegans (Strecker)
Oligocentria lignicolor (Walker)
Oligocentria semirufescens (Walker)
Paraeschra georgica (Herrich-Schäffer)
Peridea angulosa (J.E. Smith)
Peridea basitriens (Walker)
Peridea ferruginea (Packard)
Pheosia rimosa Packard
Schizura leptinoides (Grote)
Schizura unicornis (J.E. Smith)

Family Psychidae

Psyche casta (Pallas)
Taleporia walshiella (Clemens)

Family Pyralidae

Acrobasis rubrifasciella Packard
Dioryctria sp
Etiella zinckinella Treitschke
Herculia infimbrialis (Guenée)
Hypsopygia costalis (Fabricius)
Meroptera pravella (Grote)
Ostrinia nubilalis (Hübner)
Peoria approximella (Walker)
Pococera robustella (Zeller)
Pococera nr. *asperatella* (Clemens)
Sciota vetustella (Dyar)

Family Pterophoridae

sp.1
sp.2
sp.3

Family Saturniidae

Actias luna (Linnaeus)
**Antheraea polyphemus* (Cramer) (polyphemus)
**Automeris io* (Fabricius) (io)
Dryocampa rubicunda (Fabricius)
Hyalophora cecropia (Linnaeus)

Family Sesiidae

Pennisetia marginatum (Harris)
Synanthedon acerni (Clemens)

Family Sphingidae

Amorpha juglandis (J.E. Smith)
Ceratomia amyntor (Geyer)
Ceratomia undulosa (Walker)
Darapsa choerilus (Cramer)
Deidamia inscripta Harris
**Hemaris diffinis* (Boisduval) (snowberry clearwing hawk-moth)
**Hemaris thysbe* (Fabricius) (hummingbird clearwing hawk-moth)
Hyles lineata (Fabricius)
Lapara bombycoides Walker
Pachysphinx modesta (Harris)
Paonias excaecata (J.E. Smith)
Paonias myops (J.E. Smith)

Smerinthus jamaicensis (Drury)
Sphinx canadensis (Boisduval)
Sphinx chersis Hübner
Sphinx drupiferarum J.E. Smith
Sphinx kalmiae J.E. Smith
Sphinx poecila Stephens

Family Tischeriidae

Tischeria solidaginifoliella (Clemens)

Family Tortricidae

Acleris chalybeana (Fernald)
Archips purpurana (Clemens)
Archips spp.
Ancylis burgessiana (Zeller)
Argyrotaenia alisellana (Robinson)
Cenopsis pettitana (Robinson)
Choristoneura conflictana (Walker)
Choristoneura fumiferana (Clemens)
Choristoneura pinus Freeman
Choristoneura rosaceana (Harris)
Clepsis persicana (Fitch)
Epiblema benignatum (?) McDunnough
Hedya ochroleucana (Frölich)
Olethreutes spp.
Orthotaenia undulana (Denis & Schiffermüller)
Pandemis limitata (Robinson)
Phtheochroa baracana (?) (Busck)
Sparganothis tristriata Kearfott

Family Uraniidae

Callizzia amorata Packard

Family Yponomeutidae

Yponomeuta cagnagella (Hubner)

Suborder Rhopalocera

Family HesperIIDae

Subfamily HesperIinae

Amblyscirtes hegon (Scudder) (pepper-and-salt skipper)
Ancyloxypha numitor (Fabricius) (least skipper)
Carterocephalus palaemon (Pallas) (arctic skipper)
Erynnis icelus (Scudder and Burgess) (dreamy duskwing)
Euphyes vestris (Boisduval) (dun skipper)
Hesperia sassacus Harris (Indian skipper)
**Poanes hobomok* (Harris) (Hobomok skipper)
Polites mystic (W.H.Edwards) (long dash)
**Polites peckius* (Kirby) (skipper)
Polites themistocles (LaTreille) (tawny-edge skipper)
Thymelicus lineola (Ochsenheimer) (European skipper) [*non-indigenous*]

Family Lycaenidae

Subfamily Miletinae

Feniseca tarquinius Fabricius (harvester)

Subfamily Polyommatainae

**Celastrina ladon* (Cramer) (common blue) [*in seasonally variable forms*]
Celastrina lucia (Kirby) (northern azure)
Celastrina neglecta (W.H.Edwards)

Subfamily Theclinae

Callophrys augustinus (Kirby) (brown elfin)
Callophrys eryphon Boisduval (western pine elfin) [*segregated from Callophrys*]

Callophrys niphon (Hübner) (eastern pine elfin) [segregated from *Callophrys*]

**Lycaena phlaeas* (Linnaeus) (American copper)

Satyrium calanus falacer (Godart) (banded hairstreak)

**Satyrium edwardsii* (Grote and Robinson) (Edwards' hairstreak)

Family Nymphalidae

Subfamily Danainae

**Danaus plexippus* (Linnaeus) (monarch)

Subfamily Heliconiinae

**Boloria bellona* (Fabricius) (meadow fritillary)

**Boloria selene antrocostalis* (Denis & Schiffmüller) (silver-bordered fritillary)

Euptoieta claudia (Cramer) (variegated fritillary)

**Speyeria aphrodite* (Fabricius) (venus silver-spot)

**Speyeria atlantis* (Edwards) (mountain silver-spot)

**Speyeria cybele* (Fabricius) (great spangled fritillary)

Subfamily Limetidinae

**Limenitis archippus* (Cramer) (viceroys)

**Limenitis arthemis* (Drury) (white admiral)

Subfamily Nymphalinae

**Aglais milberti* (Godart) (nettle butterfly) [formerly *Nymphalis*]

Chlosyne nycteis (Doubleday) (silvery checkerspot)

Euphydryas phaeton (Drury) (Baltimore checkerspot)

**Junonia caenia* Hübner (buckeye)

**Nymphalis antiopa* (Linnaeus) (mourning cloak)

Nymphalis j-album (Boisduval and LeConte) (Compton tortoiseshell)

Phyciodes cocyta (Cramer) (northern crescent)

Phyciodes tharos (Drury) (pearl crescent)

Polygonia comma (Harris) (eastern comma)

Polygonia faunus (W.H. Edwards) (green comma)

**Polygonia interrogationis* (Fabricius) (question mark)

Polygonia progne (Cramer) (gray comma)

**Vanessa atalanta* (Linnaeus) (red admiral)

**Vanessa cardui* (Linnaeus) (hunter's butterfly)

Vanessa virginiensis (Drury) (American lady)

Subfamily Satyrinae

**Cercyonis pegala* (Fabricius) (wood-nymph)

Coenonympha inornata W.H. Edwards (common ringlet)

Enodia anthedon A.H. Clark (northern pearly-eye)

Satyroides eurydice (Linnaeus) (eyed brown)

Family Papilionidae

Subfamily Papilioninae

Papilio canadensis Rothschild & Jordan (Canadian tiger swallowtail)

Family Pieridae

Subfamily Coliadinae

Colias eurytheme Boisduval (orange sulphur)

**Colias interior* (Scudder) (pink-edged sulphur)

**Colias philodice* Godart (clouded sulphur)

Subfamily Pierinae

**Pieris oleracea* Harris (mustard white)

Pieris rapae (Linnaeus) (cabbage white) [*non-indigenous*]

Subphylum CHELICERATA

In proportion to importance, perhaps the least well documented major group of metazoans in this region. The Chelicerata include the very diverse spiders and mites as well as a variety of smaller groups.

Class Arachnida
Subclass Acarina

Mites are a very large and ill-studied group. Their taxonomic arrangement does not seem to be standardized. They are referred to Subclass Acarina by ITIS, with several orders of mites, but other sources place all mites in Order Acari (Tudge 2000) with the orders listed here demoted to suborder status. Arrangement of orders and families will vary from source to source. Aquatic mites in Order Trombidiformes are from Yanoviak and McCafferty (1996). Listings from Order Acariformes (including two new genera named from specimens collected at the Huron Mountains – *Superiorus* and *Huronopus*) are from O'Connor (1989,1991), whose family assignments are used here.

Order Acariformes

Family Acaridae

Boletoglyphus ornatus Fain & Ide
Calvoliella cyclopis Woodring
Calvoliella sp A.
Calvoliella sp B.
Calvoliella sp C.
Calvoliella sp D.
Calvoliella sp E.
Histiogaster arborsignis Woodring
Lackerbaueria krombeini Baker
Naiadacarus arboricola Fashing
Naiadacarus fashingi O'Connor
Rhizoglyphus sp B.
Rhizoglyphus sp A.
Sancassania sp A.
Schweibea sp A.
Schweibea sp B.
Schweibea sp C
Schweibea sp D.
Schweibea sp E.
Schweibea sp F.
Schweibea sp G
Schweibea sp H.
Schweibea sp I.
Schweibea sp J.
Schweibea sp K.
Thyreophagus sp A.
N. Gen. sp A.

Family Chaetodactylidae

Chaetodactylus sp A.

Family Digamasellidae

Dendrolaelaps sp A.
Dendrolaelaps sp B.

Family Glycyphagidae

Glycyphagus sp A.

Family Hemisarcoptidae

Congovidia sp A.
Congovidia sp B.
Congovidia sp C
Congovidia sp D.
Congovidia sp E.
Congovidia sp F.
Divilia sp A.
Divilia sp B.

Divilia sp C
Huronopus michiganensis O' Connor & Houck
Nanacarus sp A.
Nanacarus sp B.
Nanacarus sp C
Nanacarus sp D.
Nanacarus sp E.
Superiorus huronmontanus O' Connor & Houck

Family Histiostomatidae

Bonomoia sp A.
Bonomoia sp B.
Bonomoia sp C
Histiostoma sp A.
Histiostoma sp B.
Spinanoetus sp A.

Family Parasitidae

Parasitus sp A.

Family Pyroglyphidae

Sturnophagoides bakeri (Fain)

Family Rosensteinidae

Coproglyphus pennsylvanicus (Fain, Lukoschus, & Whitaker)

Family Winterschmidtidae

Crabrovidia ectempii Fain
N. Gen. 1 sp A.
N. Gen. 1 sp B.
Saproglyphus sp A.
Saproglyphus sp B.
Saproglyphus sp C
Vespacarus sp A.
Vidia sp A.
Vidia sp B.

Order Trombidiformes

Family Aturidae

#*Aturus estellae* Habeeb

Family Hydryphantidae

#*Protzia* sp

Family Hygrobatidae

#*Atractides* sp
#*Hygrobates* sp

Family Lebertiidae

#*Letertia* sp

Family Sperchonidae

#*Sperchon* sp

Family Terrenticolidae

#*Torrenticola* sp

Phylum CHORDATA

Subphylum VERTEBRATA

While it might be thought that the vertebrates would be particularly well-studied, occurrences of new species continue to be noted (especially among the fishes). In addition, it is difficult to define “occurrence” meaningfully and unambiguously for some groups. Birds and mammals have wide ranges and many are highly mobile. Some fish

whose primary habitat is the deep waters of Lake Superior may wander into near-shore waters and stream-mouths. I have chosen to list all species for which individuals have been documented within the boundaries of the Club. Some of these individuals have certainly been wanderers or vagrants and do not represent a locally established population. While they are part of the potentially observable diversity of the Club, it is important to recognize that they are not a meaningful part of the ecological function of the local landscape. The base list for vertebrates is from Manville (1948) with additions as noted. On-line sources (NatureServe-Explorer, ITIS) were used extensively to verify names. Organization of taxa is primarily according to Tudge (2000).

Currently, the list includes four species of jawless fishes, 55 of bony fishes, 15 amphibians, 11 reptiles, 234 birds, and (depending on accounting) about 56 mammals, for a total of 375 vertebrate species.

Class Cephalaspidomorpha (Cyclostomata)

This list of fish species (Classes Cephalaspidomorpha and Actinopterygii) is based Manville (1948), but subsequent researchers (Braem 1959, Huckins 2000-2002) have added several species, and these are indicated by asterisks. Many of Manville's species assignments have been changed. Higher-level taxonomy of the jawless fishes is debated: the old Class Cyclostomata is now widely regarded as polyphyletic, resulting in the separation of the lampreys into Class Cephalaspidomorpha.

Order Petromyzontiformes

Family Petromyzontidae

Ichthyomyzon fossor Reighard and Cummins (northern brook lamprey)

**Ichthyomyzon unicuspis* Hubbs and Trautman (silvery lamprey)

**Lampetra appendix* (De Kay) (American brook lamprey)

**Petromyzon marinus* Linnaeus (sea lamprey)[non-indigenous]

Class Actinopterygii

The bony fishes were traditionally placed in Class Osteichthyes. However, Osteichthyes includes two sister groups or clades: the 'ray-finned fishes', or Actinopterygii, which include the vast majority of fish species (indeed, probably a majority of vertebrate species); and the Sarcopterygii, including such creatures as coelacanths and the extinct lobe-finned fishes. Since the lobe-finned fishes include the ancestors of the tetrapods (including all terrestrial vertebrates), strict adherence to cladistic standards of monophyly would require placing all of the remaining vertebrates in Osteichthyes. Regarding this as undesirable, most taxonomists now regard Osteichthyes as an informal taxon, or 'grade', and elevate Actinopterygii to Class. As for the previous class, the base list of bony fish is drawn from Manville, and changes are similarly noted. Some of the species listed here spend most of their life-cycle in the open waters of Lake Superior, but all find their way, for breeding or as occasional wanderers into the streams or inland lakes of the Huron Mt. Club. Additional species may occur in the offshore waters of Lake Superior.

Calling for particular comment are the native whitefish or ciscos (Family Salmonidae, Subfamily Coregoninae). This group has diversified dramatically in the Great Lakes basin. Many populations have been isolated, presumably since early post-glacial times, in smaller lakes throughout the region, and have diverged genetically and in morphology. While such populations are recognizably distinct, their proper taxonomic status is ambiguous. Manville recognizes two sub-species of *Coregonus (Leucichthys) artedi* endemic to Lake Ann and Rush Lake (vars. *annensis* and *huronicus*). I have been unable to find any modern taxonomic source recognizing these varieties, and do not include them here. The endemic Ives Lake cisco, *Coregonus (Leucichthys) hubbsi*, is lacking from most general taxonomic sources on North American fish, but is included in others (and is listed by the State of Michigan as a species of special concern). I have retained it as a species. It is well to recognize, however, that many isolated populations of fish, while genetically and morphologically distinctive, prove not to be reproductively isolated when brought into renewed contact with sister groups.

A distinctive form of lake trout in Rush Lake appears similar to distinctive small, deep-water forms in several much larger lakes (including Lake Superior). Sympatry of this form with the 'normal' form suggests that it is a distinct population, but its taxonomic status has not been formally studied (although Manville lists it as "Rush Lake trout", *Salvelinus (Critivomer) namaycush huronicus*).

As for the jawless fishes, this list is primarily based on Manville (1948), with additions (Braem 1959) denoted by asterisks. 55 species are listed thus far.

Order Acipenseriformes

Family Acipenseridae

Acipenser fulvescens Rafinesque (lake sturgeon)

Order Clupeiformes

Family Clupeidae

**Alosa pseudoharengus* (Wilson) (alewife) [non-indigenous]

Order Osmeriformes

Family Osmeridae

Osmerus mordax (Mitchill) (rainbow smelt)

Order Salmoniformes

Family Salmonidae

Coregonus artedii Lesueur (lake herring)

Coregonus clupeaformis (Mitchill) (great lakes whitefish)

Coregonus hoyi (Gill) (great lakes bloater)

Coregonus hubbsi (Koelz) (Ives Lake cisco)

Coregonus nipigon (Koelz) (Nipigon cisco)

**Oncorhynchus kisutch* (Walbaum) (coho salmon) [non-indigenous]

**Oncorhynchus mykiss irideus* (Gibbons) (rainbow trout) [non-indigenous?]

**Oncorhynchus tshawytscha* (Walbaum) (chinook salmon) [non-indigenous]

Prosopium cylindraceum (Pallas) (round whitefish)

Salmo trutta Linnaeus (brown trout) [non-indigenous]

Salvelinus fontinalis (Mitchill) (brook trout)

Salvelinus namaycush (Walbaum) (lake trout)

Order Esociformes

Family Esocidae

Esox lucius Linnaeus (northern pike)

**Esox masquinongy* Mitchill (muskellunge)

Family Umbridae

**Umbra limi* (Kirtland) (central mudminnow)

Order Cypriniformes

Family Catostomidae

Catostomus catostomus (Forster) (long-nose sucker)

Catostomus commersonii (Lacepede) (white sucker)

Family Cyprinidae

Couesius plumbeus (Agassiz) (lake chub)

**Cyprinus carpio* Linnaeus (common carp)

Luxilus cornutus (Mitchill) (common shiner)

**Margariscus margarita* (Cope) (pearl dace)

Notemigonus crysoleucas (Mitchill) (western golden shiner)

**Notropis atherinoides* Rafinesque (emerald shiner)

Notropis heterodon (Cope) (blackchin shiner)

Notropis heterolepis Eigenmann and Eigenmann (blacknose shiner)

Notropis hudsonius (Clinton) (spottail shiner)

Notropis volucellus (Cope) (mimic shiner)

Phoxinus eos (Cope) (northern redbelly dace)

Phoxinus neogaeus Cope (finescale dace)

Pimephales notatus (Rafinesque) (bluntnose minnow)

Pimephales promelas Rafinesque (fathead minnow)

**Rhinichthys atratulus* (Hermann) (blacknose dace)

Rhinichthys cataractae (Valenciennes) (longnose dace)

**Semotilus atromaculatus* (Mitchill) (northern creek chub)

Order Siluriformes

Family Ictaluridae

- **Ameiurus melas* (Rafinesque) (black bullhead)
- **Ameiurus nebulosus* (Lesueur) (northern brown bullhead)

Order Gadiformes

Family Lotidae

- Lota lota* (Linnaeus) (burbot)

Order Perciformes

Family Centrarchidae

- Ambloplites rupestris* (Rafinesque) (rock bass)
- **Lepomis gibbosus* (Linnaeus) (pumpkinseed)
- Lepomis macrochirus* Rafinesque (common bluegill)
- Micropterus dolomieu* Lacepede (smallmouth bass)
- Micropterus salmoides* (Lacepede) (largemouth bass)

Family Percidae

- Etheostoma exile* (Girard) (Iowa darter)
- Etheostoma nigrum* Rafinesque (Johnny darter)
- Perca flavescens* (Mitchill) (yellow perch)
- Percina caprodes* (Rafinesque) (logperch)
- Stizostedion vitreum vitreum* (Mitchill) (walleye)

Order Percopsiformes

Family Percopsidae

- Percopsis omiscomaycus* (Walbaum) (trout-perch)

Order Scorpaeniformes

Family Cottidae

- Cottus bairdii* Girard (mottled sculpin)
- Cottus cognatus* Richardson (slimy sculpin)

Order Gasterosteiformes

Family Gasterosteidae

- Culaea inconstans* (Kirtland) (brook stickleback)
- Pungitius pungitius* (Linnaeus) (ninespine stickleback)

Class Amphibia

Although the (at least partly) terrestrial vertebrate ectotherms -- Classes Amphibia and Reptilia -- are conventionally grouped as “herps”, they are not a meaningful phylogenetic group. This listing is, for both groups, derived primarily from Manville (1948) with a few additions from subsequent personal observations and communications (Liebgold and Ransom 2008). Nomenclature has been revised according to ITIS.

Order Caudata (Urodela)

Family Salamandridae

- Notophthalmus viridescens* (Rafinesque) (newt, red eft)

Family Ambystomatidae

- Ambystoma jeffersonianum* (Green) (Jefferson’s salamander)
- Ambystoma laterale* (Hallowell) (blue-spotted salamander)
- Ambystoma maculatum* (Shaw) (spotted salamander)

Family Plethodontidae

- Hemidactylium scutatum* (Temminck and Schlegel 1838) (four-toed salamander)
- Plethodon cinereus* (Green) (red-backed salamander)

Order Anura

Family Bufonidae

Bufo americanus americanus Holbrook (American toad)

Family Hylidae

Hyla versicolor LeConte (common tree-toad, gray tree-frog)

Pseudacris crucifer crucifer (Wied-Neuwied) (spring peeper)

Family Ranidae

Rana catesbeiana Shaw (bullfrog)

Rana clamitans Latreille (green frog)

Rana palustris LeConte (pickerel frog)

Rana pipiens Schreber (leopard frog)

Rana septentrionalis Baird (mink frog)

Rana sylvatica LeConte (wood frog)

Class Reptilia

The reptiles are, notoriously, an ‘ill-behaved’ – i.e., not monophyletic – taxonomic group. The closest common ancestor of the groups traditionally called reptiles is also an ancestor of the birds, making the living Reptilia clearly paraphyletic. Rigorous cladistic taxonomy would require, among the groups listed here, that the turtles and tortoises, at least, be placed in a separate class (“Testudines”) that would then be sister to the combined lineages of (among living creatures) birds-crocodiles and the tuatara-snake-lizard clan (see Tudge 2000). This seems too violent towards traditional taxonomic notions for now, so I have chosen (along with ITIS) to retain the informal ‘grade’ Reptilia as a Class.

Order Testudines

Family Chelydridae

Chelydra serpentina (Linnaeus) (snapping turtle)

Family Emydidae

Chrysemys picta bellii (Gray) (painted turtle)

Emydoidea blandingii (Holbrook) (Blanding’s turtle)

Terrapene carolina carolina (Linnaeus) (eastern box turtle)

Order Squamata

Suborder Autarchoglossa

Family Scincidae

Eumeces fasciatus Linnaeus (five-lined skink)

Suborder Serpentes

Family Colubridae

Diadophis punctatus Blanchard (northern ringneck snake)

Elaphe vulpina (Baird and Girard) (pine snake)

Lampropeltis triangulum Holbrook (eastern milk snake)

Liochlorophis vernalis (Harlan) (green snake)

Storeria occipitomaculata (Storer) (red-bellied snake)

Thamnophis sirtalis sirtalis (Linnaeus) (garter snake)

Class Aves

This listing of the bird fauna is based largely on the compilation of Negri et al. (1995), supplemented with information from Kielbaso et al. (unpublished report) and from the personal observations of several individuals. While the ornithological community frequently uses common names first in bird-lists, we have maintained the format used throughout this document and given the scientific name first, followed by the common name in parentheses. Assignments to higher taxa and sequence of taxa follows the most recent (2016) “Birds of North and Middle America Checklist” of the American Ornithological Union (checklist.aou.org), and includes a number of reassignments of families to orders. Various published sources suggest other arrangements are more

closely aligned with true monophyletic structure, but the AOU order is retained here because it is taken, nearly universally, as the taxonomic standard among ornithologists (a more authoritarian group, taxonomically speaking, than most).

To each species' name, I append an occurrence code drawn primarily from Negri et al. (1995), as follows: S = summer, M = spring and fall migrants, W = winter, P = permanent resident, and V = vagrant. Some of these might be changed with further observation. An "N" following the occurrence code indicates evidence of nesting on Club lands, as recorded by Kielbaso et al. (2001). This is unlikely to be a complete listing of nesting species, and it may be assumed that other regular summer residents sometimes nest on the Club.

At least three species on this list were formerly native at the Huron Mt. Club and have been extirpated. Of these, two – trumpeter swan and peregrine falcon – have been reintroduced in the Upper Peninsula and subsequently have been observed at the Club (trumpeter swans first in 2001). The third extirpated species, (passenger pigeon) is globally extinct. Three of the listed species are not American natives: *Columba livia* (rock dove, or feral pigeon), *Sturnus vulgaris* (European starling), and *Passer domesticus* (house sparrow).

While the 234 species listed here may be taken as one of the most complete listings for a higher level taxon, it can be expected that species will continue to be added as a consequence of occasional vagrant sightings (about 50 species have been sighted in the Upper Peninsula, but not at the Huron Mt. Club: Negri et al. 1995), with the establishment of further exotics (feral pigeons have only been observed at the Club within the last decade), and as ranges change in response to climatic warming.

Order Anseriformes

Family Anatidae

Chen caerulescens (Snow Goose) M
Branta canadensis (Canada Goose) S,N
Cygnus buccinator (Trumpeter Swan) V
Aix sponsa (Wood Duck) S,N
Anas strepera (Gadwall) M
Anas americana (American Wigeon) M
Anas rubripes (American Black Duck) S
Anas platyrhynchos (Mallard) S,N
Anas discors (Blue-winged Teal) S,N
Anas clypeata (Northern Shoveler) M
Anas crecca (Green-winged Teal) S
Aythya valisineria (Canvasback) M
Aythya americana (Redhead) M
Aythya collaris (Ring-necked Duck) S
Aythya affinis (Lesser Scaup) M
Clangula hyemalis (Oldsquaw) M
Bucephala albeola (Bufflehead) M
Bucephala clangula (Common Goldeneye) S
Lophodytes cucullatus (Hooded Merganser) S,N
Mergus merganser (Common Merganser) S,N
Mergus serrator (Red-breasted Merganser) S
Oxyura jamaicensis (Ruddy Duck) M

Order Galliformes

Family Phasianidae

Bonasa umbellus (Ruffed Grouse) P,N
Falcapennis canadensis (Spruce Grouse) P
Tympanuchus phasianellus (Sharp-tailed Grouse) P

Order Podicipediformes

Family Podicipedidae

Podilymbus podiceps (Pied-billed Grebe) S
Podiceps auritus (Horned Grebe) M
Podiceps grisigena (Red-necked Grebe)

Order Columbiformes

Family Columbidae

- Columba livia* (Rock Dove) S
- Ectopistes migratorius* (Passenger Pigeon) Extinct
- Zenaida macroura* (Mourning Dove) S

Order Cuculiformes

Family Cuculidae

- Coccyzus erythrophthalmus* (Black-billed Cuckoo) S
- Coccyzus americanus* (Yellow-billed Cuckoo) S

Order Caprimulgiformes

Family Caprimulgidae

- Chordeiles minor* (Common Nighthawk) S,N
- Caprimulgus carolinensis* (Chuck-will's-widow) V
- Caprimulgus vociferus* (Whip-poor-will) S,N

Order Apodiformes

Family Apodidae

- Chaetura pelagica* (Chimney Swift) S,N

Family Trochilidae

- Archilochus colubris* (Ruby-throated Hummingbird) S,N

Order Gruiformes

Family Rallidae

- Coturnicops noveboracensis* (Yellow Rail) S
- Rallus limicola* (Virginia Rail) S
- Porzana carolina* (Sora) S
- Fulica americana* (American Coot) S

Family Gruidae

- Grus canadensis* (Sandhill Crane) S,N

Order Charadriiformes

Family Charadriidae

- Pluvialis squatarola* (Black-bellied Plover) M
- Pluvialis dominica* (American Golden Plover) M
- Charadrius vociferus* (Killdeer) S,N

Family Scolopacidae

- Tringa melanoleuca* (Greater Yellowlegs) M
- Tringa flavipes* (Lesser Yellowlegs) M
- Tringa solitaria* (Solitary Sandpiper) M,N
- Catoptrophorus semipalmatus* (Willet) V
- Actitis macularia* (Spotted Sandpiper) S,N
- Bartramia longicauda* (Upland sandpiper) S
- Arenaria interpres* (Ruddy Turnstone) M
- Calidris alba* (Sanderling) M
- Calidris pusilla* (Semipalmated Sandpiper) M
- Calidris mauri* (Western Sandpiper) V
- Calidris minutilla* (Least Sandpiper) M
- Calidris melanotos* (Pectoral Sandpiper) M
- Calidris alpina* (Dunlin) M
- Calidris himantopus* (Stilt Sandpiper) M
- Gallinago gallinago* (Common Snipe) S
- Scolopax minor* (American Woodcock) S,N
- Phalaropus tricolor* (Wilson's Phalarope) M

Family Laridae

Larus philadelphia (Bonaparte's Gull) M
Larus delawarensis (Ring-billed Gull) S
Larus argentatus (Herring Gull) P
Sterna caspia (Caspian Tern) S
Sterna hirundo (Common Tern) S
Chlidonias niger (Black Tern) S

Order Gaviiformes

Family Gaviidae

Gavia immer (Common Loon) S,N

Order Suliformes

Family Phalacrocoracidae

Phalacrocorax auritus (Double-crested Cormorant) S

Order Pelecaniformes

Family Pelecanidae

Pelecanus erythrorhynchos (American White Pelican) M

Family Ardeidae

Botaurus lentiginosus (American Bittern) S,N

Ixobrychus exilis (Least Bittern) S

Ardea herodias (Great Blue Heron) S

Butorides striatus (Green Heron) S

Nycticorax nycticorax (Black-crowned Night Heron) S

Order Cathartiformes

Family Cathartidae

Cathartes aura (Turkey Vulture) S

Order Accipritiformes

Family Accipitridae

Pandion haliaetus (Osprey) S

Haliaeetus leucocephalus (Bald Eagle) S,N

Circus cyaneus (Northern Harrier) S

Accipiter striatus (Sharp-shinned Hawk) S,N

Accipiter cooperii (Cooper's Hawk) S

Accipiter gentilis (Northern Goshawk) P

Buteo lineatus (Red-shouldered Hawk) S

Buteo platypterus (Broad-winged Hawk) S,N

Buteo jamaicensis (Red-tailed Hawk) S

Buteo lagopus (Rough-legged Hawk) M

Aquila chrysaetos (Golden Eagle) M

Order Strigiformes

Family Strigidae

Bubo virginianus (Great Horned Owl) P

Nyctea scandiaca (Snowy Owl) W

Strix varia (Barred Owl) P,N

Strix nebulosa (Great Gray Owl) W

Asio otus (Long-eared Owl) S

Asio flammeus (Short-eared Owl) M

Aegolius funereus (Boreal Owl) W

Aegolius acadicus (Northern Saw-whet Owl) S

Order Coraciiformes

Family Alcedinidae

Ceryle alcyon (Belted Kingfisher) S,N

Order Piciformes

Family Picidae

Melanerpes erythrocephalus (Red-headed Woodpecker) S
Melanerpes carolinus (Red-bellied Woodpecker) V
Sphyrapicus varius (Yellow-bellied Sapsucker) S,N
Picoides arcticus (Black-backed Woodpecker) P,N
Picoides pubescens (Downy Woodpecker) P,N
Picoides villosus (Hairy Woodpecker) P,N
Picoides tridactylus (Three-toed Woodpecker) W
Colaptes auratus (Northern Flicker) S,N
Dryocopus pileatus (Pileated Woodpecker) P,N

Order Falconiformes

Family Falconidae

Falco sparverius (American Kestrel) S,N
Falco columbarius (Merlin) S,N
Falco peregrinus (Peregrine Falcon) N

Order Passeriformes

Family Tyrannidae

Contopus cooperi (Olive-sided Flycatcher) S,N
Contopus virens (Eastern Wood Pewee) S,N
Empidonax flaviventris (Yellow-bellied Flycatcher) S,N
Empidonax alnorum (Alder Flycatcher) S,N
Empidonax minimus (Least Flycatcher) S,N
Sayornis phoebe (Eastern Phoebe) S,N
Myiarchus crinitus (Great Crested Flycatcher) S,N
Tyrannus verticalis (Western Kingbird) V
Tyrannus tyrannus (Eastern Kingbird) S,N

Family Laniidae

Lanius excubitor (Northern Shrike) W

Family Vireonidae

Vireo flavifrons (Yellow-throated Vireo) S
Vireo solitarius (Solitary Vireo) S,N
Vireo gilvus (Warbling Vireo) S
Vireo philadelphicus (Philadelphia Vireo) S
Vireo olivaceus (Red-eyed Vireo) S,N

Family Corvidae

Perisoreus canadensis (Gray Jay) P,N
Cyanocitta cristata (Blue Jay) P,N
Corvus brachyrhynchos (American Crow) P,N
Corvus corax (Common Raven) P,N

Family Alaudidae

Eremophila alpestris (Horned Lark) S

Family Hirundinidae

Progne subis (Purple Martin) S
Tachycineta bicolor (Tree Swallow) S,N
Stelgidopteryx serripennis (Northern Rough-winged Swallow) S
Riparia riparia (Bank Swallow) S
Petrochelidon pyrrhonota (Cliff Swallow) S,N
Hirundo rustica (Barn Swallow) S,N

Family Paridae

Poecile atricapilla (Black-capped Chickadee) P,N
Poecile hudsonica (Boreal Chickadee) P

Baeolophus bicolor (Tufted Titmouse) P

Family Sittidae

Sitta canadensis (Red-breasted Nuthatch) P,N

Sitta carolinensis (White-breasted Nuthatch) P,N

Family Certhiidae

Certhia americana (Brown Creeper) S,N

Family Troglodytidae

Thryothorus ludovicianus (Carolina Wren) V

Troglodytes aedon (House Wren) S,N

Troglodytes troglodytes (Winter Wren) S,N

Cistothorus platensis (Sedge Wren) S,N

Cistothorus palustris (Marsh Wren) S

Family Regulidae

Regulus satrapa (Golden-crowned Kinglet) S,N

Regulus calendula (Ruby-crowned Kinglet) M

Family Turdidae

Sialia sialis (Eastern Bluebird) S,N

Catharus fuscescens (Veery) S,N

Catharus ustulatus (Swainson's Thrush) S,N

Catharus minimus (Gray-checked Thrush) M

Catharus guttatus (Hermit Thrush) S,N

Hylocichla mustelina (Wood Thrush) S,N

Turdus migratorius (American Robin) S,N

Family Mimidae

Dumetella carolinensis (Gray Catbird) S,N

Mimus polyglottos (Northern Mockingbird) M

Toxostoma rufum (Brown Thrasher) S,N

Family Sturnidae

Sturnus vulgaris (European Starling) P,N (I

Family Bombycillidae

Bombycilla cedrorum (Cedar Waxwing) S,N

Family Motacillidae

Anthus rubescens (American Pipit) M

Family Fringillidae

Pinicola enucleator (Pine Grosbeak) W

Carpodacus purpureus (Purple Finch) S,N

Loxia curvirostra (Red Crossbill) P,N

Loxia leucoptera (White-winged Crossbill) P,N

Carduelis flammea (Common Redpoll) W

Carduelis pinus (Pine Siskin) S,N

Carduelis tristis (American Goldfinch) S,N

Coccothraustes vespertinus (Evening Grosbeak) P,N

Family Parulidae

Vermivora chrysoptera (Golden-winged Warbler) S

Vermivora peregrina (Tennessee Warbler) S

Vermivora ruficapilla (Nashville Warbler) S,N

Parula americana (Northern Parula) S,N

Dendroica petechia (Yellow Warbler) S,N

Dendroica pensylvanica (Chestnut-sided Warbler) S,N

Dendroica magnolia (Magnolia Warbler) S,N

Dendroica tigrina (Cape May Warbler) S

Dendroica caerulescens (Black-throated Blue Warbler) S,N

Dendroica coronata (Yellow-rumped Warbler) S,N

Dendroica virens (Black-throated Green Warbler) S,N

Dendroica fusca (Blackburnian Warbler) S,N

Dendroica pinus (Pine Warbler) S,N

Dendroica palmarum (Palm Warbler) S
Dendroica castanea (Bay-breasted Warbler) S,N
Dendroica striata (Blackpoll Warbler) M
Dendroica cerulea (Cerulean Warbler) S
Mniotilta varia (Black-and-white Warbler) S,N
Setophaga ruticilla (American Redstart) S,N
Seiurus aurocapillus (Ovenbird) S,N
Seiurus noveboracensis (Northern Waterthrush) S,N
Oporornis agilis (Connecticut Warbler) S
Oporornis philadelphia (Mourning Warbler) S,N
Geothlypis trichas (Common Yellowthroat) S,N
Wilsonia pusilla (Wilson's Warbler) S
Wilsonia canadensis (Canada Warbler) S,N

Family Thraupidae

Piranga rubra (Summer Tanager) V
Piranga olivacea (Scarlet Tanager) S,N

Family Emberizidae

Pipilo erythrophthalmus (Rufous-sided Towhee) S
Spizella arborea (Tree Sparrow) S
Spizella passerina (Chipping Sparrow) S,N
Spizella pallida (Clay-colored Sparrow) S
Spizella pusilla (Field Sparrow) V
Pooecetes gramineus (Vesper Sparrow) S
Chondestes grammacus (Lark Sparrow) S
Passerculus sandwichensis (Savannah Sparrow) S,N
Ammodramus savannarum (Grasshopper Sparrow) S
Ammodramus leconteii (Le Conte's Sparrow) S
Ammodramus caudacutus (Sharp-tailed Sparrow) M
Passerella iliaca (Fox Sparrow) M
Melospiza melodia (Song Sparrow) S,N
Melospiza lincolnii (Lincoln's Sparrow) S
Melospiza georgiana (Swamp Sparrow) S,N
Zonotrichia albicollis (White-throated Sparrow) S,N
Zonotrichia querula (Harris' Sparrow) M
Zonotrichia leucophrys (White-crowned Sparrow) M
Junco hyemalis (Dark-eyed Junco) S,N
Calcarius lapponicus (Lapland Longspur) M
Plectrophenax nivalis (Snow Bunting) W

Family Cardinalidae

Cardinalis cardinalis (Northern Cardinal) P
Peucaea ludovicianus (Rose-breasted Grosbeak) S,N
Passerina cyanea (Indigo Bunting) S,N

Family Icteridae

Dolichonyx oryzivorus (Bobolink) S,N
Agelaius phoeniceus (Red-winged Blackbird) S,N
Sturnella magna (Eastern Meadowlark) S
Sturnella neglecta (Western Meadowlark) M
Xanthocephalus xanthocephalus (Yellow-headed Blackbird) S
Euphagus carolinus (Rusty Blackbird) S
Euphagus cyanocephalus (Brewer's Blackbird) S
Quiscalus quiscula (Common Grackle) S,N
Molothrus ater (Brown-headed Cowbird) S
Icterus spurius (Ochard Oriole) V
Icterus galbula (Northern Oriole) S

Family Passeridae

Passer domesticus (House Sparrow) P

Class Mammalia
Subclass Eutheria

This listing is derived primarily from Laundre's (1974) study and documentation of the mammals of the Huron Mountain Club. Laundre's list includes some species documented by Manville in earlier studies (Manville 1948). It also includes several species that have been only tentatively identified or whose occurrence at the Huron Mountain Club is highly speculative (usually based on general distributions); these are annotated accordingly here. Species not listed by Laundre include two species that appear to have expanded their range northward -- southern flying squirrel (*Glaucomys volans*) (Wells-Gosling 1982) and *Peromyscus leucopus* (Philip Myers, unpublished data) -- and humans (*Homo sapiens*), who seem to qualify as naturalized (if migratory). Several species of bat listed as tentative by Laundre are confirmed (and one species added) by Wan and Myers (2008).

Nomenclature has been updated according to the International Taxonomic Information Structure, ITIS (www.itis.usda.gov), resulting in the following changes from Laundre (1974): *Microsorex* is included in *Sorex*; *Eutamias* is included in *Tamias*; *Euarctos* is included in *Ursus*; the northern bat, formerly *Myotis keenii*, is now *Myotis septentrionalis*; *Gulo luscus* is *G. gulo*; *Lutra canadensis* is *L. lutra*; *Mustela rixosa* is *M. nivalis*; *Felis concolor* is *Puma concolor*; *Felis domesticus* is *F. silvestris*; *Vulpes fulva* is *V. vulpes*; and *Rangifer caribou* is *R. tarandus caribou*.

A number of species are of ambiguous or changing status. Larger mammals are often highly mobile and sparsely distributed. It is difficult, for species like wolves, moose, grey fox, badger, and mountain lions, to distinguish between 'residents' -- representatives of established local populations -- and vagrant individuals. There are very few introduced non-indigenous species in the Huron Mountains; even those ubiquitous human commensals, the house mouse and Norway rat, may not have established persistent populations. Humans and feral house cats are listed here, although it is not clear whether there is a breeding population of the latter. Ranges of some species not historically native to the area have expanded in recent decades to include the Huron Mountains (raccoons, coyotes, grey fox). Several species have been extirpated from the area in historical times, including, with varying degrees of certainty, woodland caribou, mountain lion, wolf, marten, fisher, moose, and lynx (others, like wolverine and badger, may never have occurred here). Most of these are now re-established to some degree, either by active re-introduction to the region (marten, fisher, moose), or by their own efforts (wolf, possibly mountain lion).

Thus, a count of mammal species currently established in the Hurons is inherently fluid and tentative; currently, somewhere between 51-56 species, depending on accounting.

Order Lagomorpha

Family Leporidae

Lepus americanus (snowshoe hare)

Sylvilagus floridanus (cottontail rabbit) [occasional, no recent records]

Order Rodentia

Family Cricetidae

Clethrionomys gapperi (red-backed vole)

Microtus pennsylvanicus (meadow vole)

Ondatra zibethica (muskrat)

Peromyscus leucopus (white-footed mouse)

Peromyscus maniculatus gracilis (woodland deer mouse)

Synaptomys cooperi (bog lemming)

Family Castoridae

Castor canadensis (beaver)

Family Erethizontidae

Erethizon dorsatum (porcupine)

Family Zapodidae

Napaeozapus insignis (woodland jumping mouse)

Zapus hudsonius (meadow jumping mouse)

Family Sciuridae

Glaucomys sabrinus (northern flying squirrel)

Glaucomys volans (southern flying squirrel)
Marmota monax (woodchuck)
Sciurus carolinensis (grey squirrel)
Spermophilus tridecemlineatus (thirteen-lined ground squirrel) [*tentative and recent*]
Tamias minimus (least chipmunk)
Tamias striatus (eastern chipmunk)
Tamiasciurus hudsonicus (red squirrel)

Family Muridae

Mus musculus (house mouse) [*unintentionally introduced, probably not naturalized*]
Rattus norvegicus (Norway rat) [*unintentionally introduced, probably not naturalized*]

Order Primates

Family Hominidae

Homo sapiens (human) [*naturalized*]

Order Chiroptera

Family Vespertilionidae

Eptesicus fuscus (big brown bat)
Lasionycteris noctivagans (silver-haired bat)
Lasiurus borealis (eastern red bat)
Lasiurus cinereus (hoary bat)
Myotis septentrionalis (northern bat)
Myotis lucifugus (little brown bat)

Order Insectivora

Family Soricidae

Blarina brevicauda (short-tailed shrew)
Sorex hoyi (pygmy shrew)
Sorex arcticus (arctic shrew)
Sorex cinereus (masked shrew)
Sorex palustris (water shrew)

Order Carnivora

Family Ursidae

Ursus americanus (black bear)

Family Procyonidae

Procyon lotor (raccoon)

Family Mustelidae

Gulo luscus (wolverine) [*extirpated, possibly never resident*]
Lutra canadensis (river otter)
Martes americana (marten) [*extirpated and re-established*]
Martes pennanti (fisher) [*extirpated and re-established*]
Mephitis mephitis (skunk)
Mustela erminea (short-tailed weasel)
Mustela frenata (long-tailed weasel)
Mustela nivalis (least weasel) [*tentative and improbable*]
Mustela vison (mink)
Taxidea taxus (badger) [*tentative and unlikely as resident*]

Family Felidae

Puma concolor (mountain lion) [*extirpated, perhaps occasional wandering individuals*]
Felis domesticus (domestic cat) [*feral individuals reported*]
Lynx canadensis (lynx) [*extirpated, possibly returning*]
Lynx rufus (bobcat)

Family Canidae

Canis latrans (coyote)

Canis lupus (wolf) [*extirpated, recently re-established*]
Urocyon cinereoargenteus (grey fox) [*tentative sightings*]
Vulpes vulpes (red fox)

Order Artiodactyla

Family Cervidae

Alces alces (moose) [*previously more common, now rare or extirpated*]
Odocoileus virginianus (white-tailed deer)
Rangifer tarandus caribou (woodland caribou) [*extirpated*]