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A Preliminary List of Some Families of Iowa Insects

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A PRELIMINARY LIST OF SOME FAMILIES OF
IOWA INSECTS

H. E. JAQUES AND STUDENTS

For some ten years the Iowa Insect Survey has been collecting specimens and data from all parts of this state in a study of the geographic and seasonal distribution of the insects of Iowa. Comparatively little has been done heretofore with most of the families of the *Hymenoptera* and the *Diptera* of Iowa. With the hope of stimulating a more general interest in these groups, preliminary lists of the species now known to occur within the state are being submitted. Students in systematic Entomology in the college have taken a family and given it special attention in their collecting for one or more years. These students have collaborated with the senior author in the preparation of this paper. The name of the student thus taking the responsibility of getting a list for a family in shape is printed at the head of the list. Determinations throughout the list have been made or checked by specialists as indicated for each group. Assistance given by the Iowa Academy of Science and the State University of Iowa has helped materially in keeping the Survey going.

FAMILY *STRATIOMYIIDAE* (DIPTERA)

L. G. WARREN

The Stratiomyiidae are distinguished from other Diptera by the small, round, discal cell, small squamae, and the tibiae without spurs.

All the species of soldier flies recorded in this list are represented in the Iowa Insect Survey collection. The total number of species listed are 35. Determinations were made by Maurice T. James.

Allognosta fuscitarsis Say	Odontomyia cincta Oliv.
Allognosta obscuriventris Lw.	Odontomyia hydroleonoides Jn.
Actina viridis Say	Odontomyia interrupta Oliv.
Ptecticus trivittatus Say	Odontomyia pilimanus Lw.
Ptecticus testaceus Fab.	Odontomyia vertebrata Say
Chrysochroma nigricornis Lw.	Odontomyia virgo Wied.
Sargus cuprarius L.	Odontomyia traguii Bell
Sargus decorus Say	Odontomyia nigrirostris Lw.
Sargus elegans Lw.	Odontomyia inaequalis Lw.
Sargus viridis Say	Euparyphus tetraspilus Lw.
Microchrysa polita L.	Euparyphus mutabilis Adams
Microchrysa flavicornis Mg.	Nemotelus canadensis Lw.
Stratiomys discalis Lw.	Nemotelus unicolor Lw.

Stratiomys lativentris Lw.	Nemotelus bruesii Mel.
Stratiomys meigenii Wied.	Nemotelus crassus Lw.
Stratiomys normula Lw.	Oxycera picta Vd Wulp
Stratiomys unilimbata Lw.	Neopachygaster maculicornis Hine
Labostigmina flavicornis Oliv.	

FAMILY *TABANIDAE* (DIPTERA)

LAURENCE K. CUTKOMP

The Tabanidae constitute an extensive family of medium to large sized flies belonging to the Order Diptera. The distinguishing characteristic is the flagellum of the antennae which is composed of from four to eight consolidated segments, with no style or arista being present.

Over two-thousand species are known to be distributed throughout the world. At the present time thirty-four species have been identified for the state of Iowa. Mr. Alan Stone of the United States Bureau of Entomology, Washington, D. C. has determined the most of these specimens, all of which are present in the Iowa Survey Collection at Iowa Wesleyan College.

The preliminary list follows:

Chrysops callidus Osten Sacken	Tabanus illotus Osten Sacken
Chrysops carbonarius Walker	Tabanus lasiophthalmus Macquart
Chrysops hinei Doecke	Tabanus fulvulus Wiedemann
Chrysops fulvaster Osten Sacken	Tabanus equalis Hine
Chrysops aestuans Van der Wulp	Tabanus frontalis Walker
Chrysops moerens Walker	Tabanus lineola Fabricius
Chrysops obsoletus Wiedemann	Tabanus nigrescens Palisot de Beauvais
Chrysops wiedemanni Kr.	Tabanus ohioensis Hine
Chrysops sackeni Hine	Tabanus pumilus Macquart
Chrysops striatus Osten Sacken	Tabanus molestus Say
Chrysops vittatus Wiedemann	Tabanus reinwardtii Wiedemann
Chrysops pikei Hine	Tabanus stygius Say
Chrysops sequax Williston	Tabanus sulcifrons Macquart
Tabanus atratus Fabricius	Tabanus trimaculata Palisot de Beauvais
Tabanus bicolor Wiedemann	Tabanus stigma Fabricius
Tabanus costalis Wiedemann	Tabanus venustus Osten Sacken
Tabanus exul Osten Sacken	
Tabanus giganteus De Geer	

FAMILY *ASILIDAE* (DIPTERA)

HERBERT KNUTSON

The Asilids are commonly known as the "Assassin Flies" or "Robber Flies" and constitute one of the largest families of the Order Diptera. The body is usually long, slender, and tapering toward the posterior end, but the abdomen is short and broad in a few species. Many colors are represented in this family although the majority are grey. Asilids display a good example of aggressive mimicry. These flies are very bold and do not hesitate to attack such powerful insects as dragon flies, bumblebees, and

tiger-beetles. They have even been known to attack members of their own species.

The specimens in this list were either determined, or the determinations checked by one of the following men: Maurice T. James, Ft. Collins, Colorado; Joseph Wilcox, Payallup, Washington; and by Charles Greene, U. S. National Museum, Washington, D. C. The authors are grateful to these men for the determinations of these specimens.

<i>Leptogaster flavipes</i> Loew.	<i>Erax rufibarbis</i> Macquart
<i>Ceraturgus dimidiatus</i> Macquart	<i>Erax vertebratus</i> Say
<i>Echthodopa pubera</i> Loew.	<i>Erax stamineus</i> Williston
<i>Holopogon guttula</i> Wiedemann	<i>Mallophora bromleyi</i> Curran
<i>Neopogon trifasciatus</i> Say	<i>Promachus bastardii</i> Macquart
<i>Diogmites umbrina</i> Loew.	<i>Promachus fitchii</i> Osten Sacken
<i>Diogmites platyptera</i> Loew.	<i>Promachus rufipes</i> Fabricius
<i>Diogmites neoternata</i> Bromley	<i>Promachus vertebratus</i> Say
<i>Diogmites misellus</i> Loew.	<i>Asilus antimachus</i> Walker
<i>Taracticus octopunctatus</i> Say	<i>Asilus auricomus</i> Hine
<i>Atomosia puella</i> Wiedemann	<i>Asilus erythrocnemius</i> Hine
<i>Nusa fulvicauda</i> Say	<i>Asilus flavofemoratus</i> Hine
<i>Bombomima flavicollis</i> Say	<i>Asilus notatus</i> Wiedemann
<i>Bombomima grossa</i> Fabricius	<i>Asilus orphne</i> Walker
<i>Bombomima thoracica</i> Fabricius	<i>Asilus paropus</i> Walker
<i>Proctacanthus rufus</i> Williston	<i>Asilus sadyates</i> Walker
<i>Proctacanthus milbertii</i> Macquart	<i>Asilus snowii</i> Hine
<i>Proctacanthus cacopilogus</i> Hine	<i>Asilus prairiensis</i> Tucker
<i>Proctacanthus rodecki</i> James	<i>Asilus mesae</i> Tucker
<i>Erax aestuans</i> Linné	<i>Asilus rubicundus</i> Hine
<i>Erax barbatus</i> Fabricius	

FAMILY BOMBYLIIDAE (DIPTERA)

SHIRLEY BAGNALL

The members of the family Bombyliidae are commonly known as the "bee-flies" because of their superficial resemblance to the bees. They are small to moderately large flies, often with pictured wings and frequently clothed with hairs or scales. They have slender legs, small three-jointed antennae, and rather long proboscis. The family, as it occurs throughout the world, is composed of over 1500 species. Representatives of all of the twenty-one species known to Iowa are included in the Iowa Survey Collection. The determinations have been made by R. H. Painter of Kansas State Agriculture College at Manhattan, and by Chas. Greene of the U. S. National Museum at Washington, D. C.

<i>Anthrax anale</i> Say	<i>Villa sinuosa</i> Wied.
<i>Anthrax oedipus</i> Fab.	<i>Villa cypris</i> (Meig.)
<i>Anthrax lucifer</i> Fab.	<i>Bombylius major</i> L.
<i>Anthrax pluto</i> Wied.	<i>Bombylius fulvibasis</i> Macq.
<i>Exoprosopa fasciata</i> Macq.	<i>Bombylius pulchellus</i> Loew.
<i>Exoprosopa fascipennis</i> Say	<i>Bombylius lancifer</i> Osten Sacken
<i>Villa alternata</i> Say	<i>Systoechus vulgaris</i> Loew.

Villa fulviana Say	Phthiria sulphurea Loew.
Villa hypomelas Macq.	Sparnopolius fulvus Weid.
Villa lateralis Say	Sparnopolius brevicornis Loew.
Villa morio L.	

FAMILY SYRPHIDÆ (DIPTERA)

MABEL JAQUES

The Syrphid flies or flower flies are small to large in size and may be bare, pilose, or covered with thick pile. Some species are metallic blue or green, but the majority have yellow bands, spots, or stripes on all parts of the body, especially on the abdomen.

The distinguishing character of the family is the possession of a spurious vein, located between the 3rd and 4th longitudinal veins and running lengthwise in the wing.

The list of the 69 species known to occur in Iowa follows. Dr. C. L. Fluke of the University of Wisconsin made most of the determinations.

Chrysogaster nigripes Lw.	Allograpta obliqua Say .
Chrysogaster nitida Wied.	Toxomerus geminata Say
Pipiza femoralis Lw.	Mesogramma marginata Say
Pipiza albipilosa Will.	Mesogramma polita Say
Pipiza radicum Riley	Sphaerophoria cylindrica Say
Pipizella pubescens Lw.	Sphaerophoria robusta Cur.
Pipizella modesta Lw.	Rhingia nasica Say
Heryngia salax Lw.	Brachyopa vacua O. S.
Cnemodon ontarioensis Cur.	Eristalis aeneus Scop.
Paragus bicolor Fab.	Eristalis arbustorum L.
Paragus tibialis Fallen	Eristalis brousi Will.
Chalcomyia aerea Lw.	Eristalis dimidiatus Wd.
Myiolepta nigra Lw.	Eristalis tenax L.
Myiolepta varipes Lw.	Eristalis transversus Wd.
Myiolepta strigilata Lw.	Eristalis latifrons Lw.
Baccha fascipennis Wied.	Tropidia quadrata Say
Platycheirus hyperboreus Staeger	Helophilus chrysostomus Wied.
Platycheirus quadratus Say	Helophilus latifrons Lw.
Platycheirus erraticus Cur.	Helophilus fasciatus Wlk.
Platycheirus immarginatus Zett.	Helophilus tuberculatus (Rondoni)
Melanostoma pollitarsis Cur.	Parhelophilus laetus Lw.
Melanostoma pictipes Big.	Lejops relictus Cur. & Fl.
Melanostoma obscurum Say	Lejops stipatus Wk.
Syrphus knabi Shan.	Mallota cimbiciformis Fall.
Syrphus rectus O. S.	Mallota posticata Fab.
Syrphus ribesii vittifrons Shan.	Mallota fascialis Hunt.
Syrphus torvus O. S.	Syritta pipiens L.
Metasyrphus emarginatus Say	Xyloa angustiventris Lw.
Metasyrphus neoperplexus Cur.	Brachypalpus oarus Wk.
Metasyrphus wiedemanni Jn.	Criorrhina decora Macq.
Metasyrphus wiedemanni medius Jon.	Milesia virginiensis Drury
Metasyrphus pomus Cur.	Spilomyia longicornis Lw.

Metasyrphus vinelandii Cur.	Spilomyia quadrifasciata Say
Eupeodes volucris O. S.	Temnostoma balyras Wk.
Xanthogramma flavipes Lw.	

FAMILY OTITIDAE (DIPTERA)

DICK D. MILLSAUGH

Little has been done as yet for the exact definition of the limits of this family, as well as for its subdivisions into smaller groups. This family differs from the Trypetidae in that the subcostal vein extends to the margin of the wing, and that the lower fronto-orbital bristles are wanting. Our Otitidae, which were determined by F. S. Blanton, show a total of twenty species in Iowa.

Rivellia flavimana Lw.	Callopistromyia annulipes Macq.
Rivellia coquilletti Hendl.	Pseudotephritis cribrum Lw.
Rivellia quadrifasciata Macq.	Pseudotephritis approximata Bks.
Rivellia variabilis Lw.	Pseudotephritis cribellum Lw.
Rivellia viridulans Desv.	Pseudotephritis vau Say
Tritoxa incurva Lw.	Chrysomya mandata Fab.
Tritoxa flexa Wied.	Chateopsis aenea Wd.
Delphinia picta Fab.	Chateopsis fulvifrons Macq.
Melieria ochricornis Lw.	Chaetopsis massyla Wlk.
Melieria similis Lw.	Eumetopiella rufipes Macq.

SUPER FAMILY TENTHREDINOIDEA (HYMENOPTERA)

VERLIN L. WIMP

The Tenthredinoidea are distinguished from the other Hymenoptera by the wide head and thorax, the presence of a pair of saw-like parts to the ovipositor, and two spurs on the tibia of the foreleg.

The species here listed are found in the Iowa Insect Survey collection (A) and in the Iowa State College Collection (B). The total for the two collections is 64 species, and 6 families. Determinations were made by H. H. Ross.

Family Xyelidae

Macroxyela ferruginea, (Say) (A)

Family Xiphidriidae

Xiphidria maculata Say (A)

Family Siricidae

Tremex columba (L.) (A)

Family Crabronidae

Cimbex americana var. laportei (Lep.) (A)

Cimbex americana var. dahlbomi (Guer.) (A)

Zaraea americana Cress. (A)

Family Argidae

Arge dulciaria (Say) (A)

Arge sanguinea (Klug.) (A)

Arge pectoralis (Leach) (A)

- Sterictiphora lineata* (Roh.) (A)
Sterictiphora zabriskiei (Webster & Malley) (A)
Sterictiphora cellularis (Say) (A)
Family Tenthredinidae
Strongylogastroidae epicera (Say) (A)
Macremphytus tarsatus (Say) (A)
Eriocampa rotunda (Nort.) (A)
Ametastegia glabrata (Fall.) (A)
 " *inornata* (Say) (A)
 " *recens* (Say) (A)
Dolerus aprilis Nort. (A)
 " *aprilis nocivus* Ross (A)
 " *bicolor* (Pal. de Beauv.) (A)
 " *bicolor testicus* Mac G. (B)
 " *collaris* Say (A)
 " *collaris erebus* Ross (B)
 " *neoagcistus* Mac G. (A)
 " *neocollaris* Mac G. (A)
 " *similis* Nort. (A)
 " *unicolor* (Pal. de Beauv.) (A)
 " *neoprilis* Mac G. (A)
 " *colosericeus* Mac G. (A)
 " *moramus* Ross (A)
 " *eurybis* Ross (A)
 " *elderi* Kincaid (A)
 " *illini* Ross (B)
Loderus albifrons (Nort.) (A)
 " *apricus* (Nort.) (A)
Empria flagariae Rob. (B)
Zorea americana (Cress.) (B)
Bivena semilutea (Nort.) (A)
Zalagium cinctulum (Nort.) (A)
Macrophya epinota (Say) (A)
 " *flavicoxae* (Nort.) (A)
 " *formosa* (Klug) (A)
 " *lineata* Nort. (A)
 " *tibiator* Nort. (A)
Macrophya trisyllaba (Say) (A)
Zaschisonyx montana (Cress.) (A)
Tenthredo mellicoxa Prov. (A)
 " *rufopectus* New. (A)
Tenthredella mellicoxa Prov. (A)
Caliroa aethiops (Fab.) (A)
Eriocampoides fasciata (Nort.) (A)
Empria maculata (Nort.) (A)
Tomostethus bardus (Say) (A)
 " *cordigera* (Beauv.) (A)
Phymatocera fumipennis (Nort.) (A)
Selandria flavipes (Nort.) (A)
Hemitaxonus albidopictus (Nort.) (A)

Anaplelyda rufofasciata (Nort.) (A)
 Cladius pectinicornis (Fourc.) (A)
 Pteronidea ribesii (Scop.) (A)
 Nematus ribesii Scop. (A)
 Pachynematus extensicornis (Nort.) (A)
 Acordulecera dorsalis Say (A)

FAMILY *ANDRENIDAE* (HYMENOPTERA)

W. C. MANNING

In determining the species to include in the family Andrenidae and their order of arrangement, the list as compiled by M. D. Leonard in "A List of the Insects of New York" has been followed. The members of this family are solitary bees and range in size from 1/10 to 1/2 of an inch in length. 120 species are known for Iowa. They have been determined by Miss Grace Sandhouse of the United States Department of Agriculture and P. H. Timberlake, Riverside, California.

Andrena asteris Robertson	Halictus macoupinensis Robt.
Andrena bipunctata Cr.	Halictus illinoensis Robertson
Andrena personata Robt.	Halictus versatus Robt.
Andrena carlini Ckll.	Halictus albipennis Robt.
Andrena cressoni Rob.	Halictus foxii Robt.
Andrena erythrogastra Ashm.	Halictus truncatus Robt.
Andrena flavoclypeata Sm.	Halictus tegularis Robertson
Andrena forbesi Rob.	Halictus coerulea (Ashmead)
Andrena geranii maculati Rob.	Halictus pectoralis Smith
Andrena mandibularis Rob.	Halictus nymphaearum Robt.
Andrena mariae Rob.	Halictus provancheri D. T.
Andrena claytoniae Rob.	Halictus regularis Robt.
Andrena commoda Sm.	Halictus rubicundus (Christ)
Andrena rudbeckiae Rob.	Halictus auratus (Sm.)
Andrena illinoensis Rob.	Halictus striata Prov.
Andrena polemonii Rob.	Halictus pruinosis Robt.
Andrena erigenia Robt.	Halictus pruinosisformis Cwfd.
Andrena quintilis Robt.	Halictus pictus Cwfd.
Andrena multiplicata Cockerell	Halictus bruneri Cwfd.
Andrena milwaukeensis Graen.	Nomada bella Cress.
Andrena miranda Sm.	Nomada cuneata (Robt.)
Andrena nubecula Smith	Nomada lepida Cresson
Andrena nuda Rob.	Nomada luteola Lep.
Andrena rugosa Rob.	Nomada sayi Robt.
Andrena tridens Robt.	Nomada articulata Smith
Andrena pulchella Robertson	Nomada articulata dacotana Ckll.
Andrena vestita Provancher	Nomada americana Kirby
Parandrena andrenvides Rob.	Nomada superba Cress
Calliopsis andreniformis Sm.	Halictoides marginatus (Cr.)
Epeolus autumnalis Robt.	Pseudopanurgus compositarum Robt.
Epeolus bifasciatus Cresson	Pseudopanurgus simulans Swk & Ckll.
Triepeolus concolor (Robt.)	Pseudopanurgus nebrascensis Cwfd.

<i>Triepeolus lunctus</i> (Say)	<i>Sphecodes arvensis</i> Patton
<i>Triepeolus concavus</i> Cres.	<i>Sphecodes dichrope</i> Sm.
<i>Triepeolus simplex</i> Robt.	<i>Sphecodes mandibularis</i> Cresson
<i>Triepeolus remigatus</i> Fab.	<i>Sphecodes illinoensis</i> Robt.
<i>Triepeolus cressonii</i> Robt.	<i>Sphecodes ranunculi</i> Robertson
<i>Halictus lerouxii</i> Lep.	<i>Sphecodes antennariae</i> Robt.
<i>Halictus ligatus</i> Say	<i>Anthophora walshii</i> Cress.
<i>Halictus radiatus</i> Say	<i>Melissodes agilis</i> Cress.
<i>Halictus virescens</i> (Fab.)	<i>Melissodes obliqua</i> (Say)
<i>Halictus viridulus</i> Fab.	<i>Melissodes trinodis</i> Rob.
<i>Halictus texanus</i> Cresson	<i>Melissodes cnici</i> Rob.
<i>Halictus splendens</i> (Leb.)	<i>Melissodes nivea</i> Rob.
<i>Halictus confusus</i> Smith	<i>Melissodes communis</i> Cress.
<i>Halictus purus</i> Say	<i>Melissodes pennsylvanica</i> Lep.
<i>Halictus zephyrus</i> Sm.	<i>Melissodes boltoniae</i> Robt.
<i>Halictus coriaceus</i> Sm.	<i>Melissodes vernoniae</i> Robt.
<i>Halictus forbesii</i> Robt.	<i>Melissodes coloradensis</i> Cress.
<i>Halictus platyparius</i> Robt.	<i>Melissodes bimaculata</i> (Lep.)
<i>Halictus cuprea</i> Smith	<i>Melissodes rustica</i> (Say)
<i>Halictus fervida</i> Sm.	<i>Tetralonia robertsoni</i> Ckll.
<i>Halictus obscurus</i> Robertson	<i>Tetralonia dileata</i> (Cress)
<i>Halictus sparsus</i> Robertson	<i>Tetralonia speciosa</i> Cr.
<i>Halictus quadrimaculatus</i> Robt.	<i>Tetralonia rosae</i> Robt.
<i>Halictus pilosus</i> Sm.	<i>Tetralonia dubitata</i> Cress.
<i>Halictus cressoni</i> Rob.	<i>Xenoglossa pruinosa</i> (Say)
<i>Halictus arcuatus</i> Rob.	<i>Ceratina dupla</i> Say
<i>Halictus simplex</i> Robt.	<i>Ceratina calcarata</i> Robt.
<i>Halictus parallelus</i> Say	

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