

**A SYNOPSIS, CATALOGUE, AND BIBLIOGRAPHY OF  
THE NEUROPTEROID INSECTS OF TEM-  
PERATE NORTH AMERICA.**

BY NATHAN BANKS.

In the following pages the author has attempted to make a preliminary compilation of our knowledge of the Neuropteroid insects of the United States, in the form of a synopsis to the genera, a catalogue of the species, and a bibliography since Hagen's "Synopsis" in 1861. In the catalogue I have given the synonymy that has been noted since Hagen's "Synopsis." The progress of Entomology no longer allows us to call these insects "Neuroptera," so I have used the term "Neuropteroid" to indicate, as near as possible, their general affinities. I have omitted the Mallophaga, partly because I know little of the group personally, partly because Hagen did not treat of them, and partly because they will usually be studied in connection with other parasites, rather than with the insects that occupy the following pages.

I desire to thank Mr. Alex. D. MacGillivray for the help he has given me, especially in the Ephemeriidæ.

When an Arthropod obtained wings a new life was opened to it, and with this new life a myriad of possibilities. So, at the beginning of the winged series of insects, one finds a large number of allied types; more or less related to each other, but differing in many important characters. These primitive insects, the forerunners of the other winged orders, have been called Neuroptera. They are separated by no good characters from Orthoptera, but with the latter order they can be tolerably well separated from the other orders of insects, viz., by their biting mouth-parts, the four many-veined membranous wings, and their soft bodies.

As all definitions in Nature cannot be absolute, this, of course, has plenty of exceptions. In regard to the classification, I have adopted that which will represent, as near as possible, what I understand to be natural groups. Briefly, this classification is as follows:

Super-order **PHYLOPTERA.**Order **PLATYPTERA.**

Sub-order PLECOPTERA.

Family PERLIDÆ.

Sub-order CORRODENTIA.

Super-family PSOCINA.

Family ATROPIDÆ.

Family PSOCIDÆ.

Super-family TERMITINA.

Family TERMITIDÆ.

Family EMBIDÆ.

Sub-order MALLOPHAGA.

Order **SUBULICORNIA.**

Sub-order PLECTOPTERA.

Family EPHEMERIDÆ.

Sub-order ODONATA.

Super-family AGRIONINA.

Family CALOPTERIGIDÆ.

Family AGRIONIDÆ.

Super-family LIBELLULINA.

Family GOMPHIDÆ.

F. CORDULEGASTERIDÆ

Family ÆSCHNIDÆ.

Family CORDULIDÆ.

Family LIBELLULIDÆ.

Order **NEUROPTERA.**

Sub-order PLANNIPENNIA.

Super-family SIALINA.

Family SIALIDÆ.

Family RAPIDIDÆ.

Super-family MEGALOPTERA.

Family MANTISPIDÆ.

Family CHRYSOPIDÆ.

Family HEMEROBIDIDÆ.

Family MYRMELEONIDÆ.

Family CONIOPTERIGIDÆ

Sub-order MECAPTERA.

Family PANORPIDÆ.

Order **TRICHOPTERA.**

Family PHRYGANEIDÆ.

Family LIMNOPHILIDÆ.

F. SERICOSTOMATIDÆ.

Family HYDROPTILIDÆ.

Family LEPTOCERIDÆ.

Fam. HYDROPSYCHIDÆ.

Fam. RHYACOPHILIDÆ.

In the text, for each family, I give a figure of the venation, with explanation to facilitate the use of the keys. Most of the terms will be found in ordinary text-books on Entomology. It must be remembered that a key is not a criterion, but a guide.

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**Key to Suborders.**

- |   |                 |
|---|-----------------|
| 1.—Wings rudimentary or wanting .....   | 10.             |
| Wings two.....  | 5.              |
| Wings four.....   | 2.              |
| 2.—Hind wings broader than fore wings, folded in repose, antennæ prominent..                                | 3.              |
| Hind wings never folded, often no broader than fore wings.....  | 5.              |
| 3.—Tarsi 5-jointed .....  | 4.              |
| Tarsi 3-jointed.....  | PLECOPTERA.     |
| 4.—Costal area with many transverse veins.....  | SIALIDÆ.        |
| Costal area nearly free.....  | TRICHOPTERA.    |
| 5.—Antennæ short, inconspicuous.....  | SUBULICORNIA 6. |
| Antennæ longer, distinct.....   | 7.              |
| 6.—Hind wings much shorter and narrower than fore wings, tarsi 4- or 5-jointed,<br>caudal setæ present..... | PLECTOPTERA.    |
| Hind wings about equal to fore wings, tarsi 3-jointed, no caudal setæ.                                      | ODONATA.        |

- 7.—Tarsi 5-jointed .....NEUROPTERA 8.
- Tarsi 2- 3- or 4-jointed .....CORRODENTIA 9.
- 8.—Mouth rostrated.....MECAPTERA.
- Mouth not rostrated.....PLANIPENNIA.
- 9.—Wings with many veins, prothorax distinct.....TERMITINA.
- Wings with few veins, prothorax indistinct.....PSOCINA.
- 10.—Mouth rostrated.....MECAPTERA.
- Mouth not rostrated .....11.
- 11.—Tarsi 4-jointed, prothorax distinct..... TERMITINA.
- Tarsi 3-jointed .....12.
- 12.—Prothorax inconspicuous, no caudal setæ.....PSOCINA.
- Prothorax distinct, two caudal setæ.....PLECOPTERA.

Order **PLATYPTERA.**

Suborder PLECOPTERA.

**PERLIDÆ.**

The body is long, soft and depressed ; the antennæ long and setaceous. The mouth-parts are well developed. The larvæ are aquatic, and usually found under stones in running water. The adults are called "stone-flies."

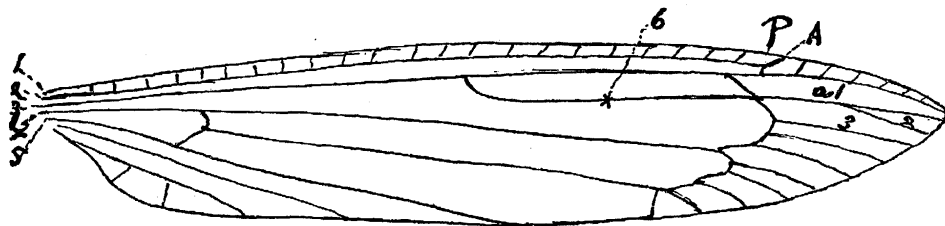


Fig. 1.—A Perlid.

1, costal ; 2, subcostal ; 3, radius ; 4, cubitus ; 5, postcubitus ; 6, radial sector ; P, pterostigma ; A, arcus ; a1, 2, 3, apical cells.

**Key to Genera.**

- 1.—Wings with many transverse irregular veins .....**Pteronarcys.**
- Wings with few more regular transverse veins.....2.
- 2.—Submarginal apical space with some transverse veins. ....3.
- Submarginal apical space without transverse veins.....4.
- 3.—Imago with external branchiæ.....**Dictyopteryx.**
- Imago without external branchiæ. ....**Acroneuria.**
- 4.—Caudal setæ present.....5.
- Caudal setæ absent... .....10.
- 5.—All palpal joints equally thick.....**Capnia.**
- Last palpal joint thinner, filiform.....6.
- 6.—Hind wings broader than fore wings, anal space present. ....7.
- Hind wings not broader than fore wings, anal space absent...**Isopteryx.**
- 7.—Between costa and radius, beyond end of subcosta, at least three cross-veins..8.
- Between costa and radius beyond end of subcosta, but one cross-vein.

**Chloroperla.**

- 8.—Subcostal accessory veinlet of fore wings with four branches...**Isogenus**.  
 Subcostal accessory veinlet of fore wings with less than four branches .... 9.
- 9.—Two ocelli..... **Pseudoperla**.  
 Three ocelli..... **Perla**.
- 10.—All tarsal joints equally long..... **Tæniopteryx**.  
 Second joint shorter than others ..... 11.
- 11.—Anal space of hind wings small, veins of pterostigma simple.....**Leuctra**.  
 Anal space of hind wings larger, veins of pterostigma form an X.  
**Nemoura**.

## Suborder CORRODENTIA.

Super-family *TERMITINA*.

This embraces two families, which may be separated as follows:

- Tarsi four jointed..... **TERMITIDÆ**.  
 Tarsi three jointed..... **EMBIDÆ**.

**TERMITIDÆ.**

These are termed "white ants," since they live somewhat on the plan of the true ants. The workers and soldiers are wingless, the males and females winged. They are mostly tropical, but one species is common all over the United States.

Our genera may be separated as follows:

- 1.—Ocelli absent ..... **Termopsis**.  
 Ocelli present..... 2.
- 2.—Costal area veined, tarsi with apical plantula, prothorax large, oblong.  
**Calotermes**.  
 Costal area free, plantula absent, prothorax cordate..... **Termes**.

**EMBIDÆ.**

Of this family we have but one genus (*Oligotoma*) and one species, found in Florida.

Super-family *PSOCINA*.

This embraces two families, easily separated as below:

- Ocelli present, wings well developed..... **PSOCIDÆ**.  
 Ocelli absent, wingless or rudimentary wings..... **ATROPIDÆ**.

**ATROPIDÆ.**

The species of this group are similar to the true Psocidæ. They live usually in concealed places. Our genera may be separated as follows:

- 1.—Meso- and metathorax united, no wings..... **Atropos**.  
 Meso- and metathorax separate, rudimentary wings..... 2.
- 2.—Wings with veins..... **Dorypteryx**.  
 Wings veinless, in form of squamæ or tubercles..... 3.
- 3.—Squamæ small, hyaline..... **Clothilla**.  
 Squamæ in the form of scars..... **Lepinotus**.  
 Small tubercles in the place of squamæ..... **Hyperetes**.

PSOCIDÆ.

The head is large, the prothorax very small, the body soft; the wings with a few curved veins; the hind wings smaller than the fore wings; the antennæ long.

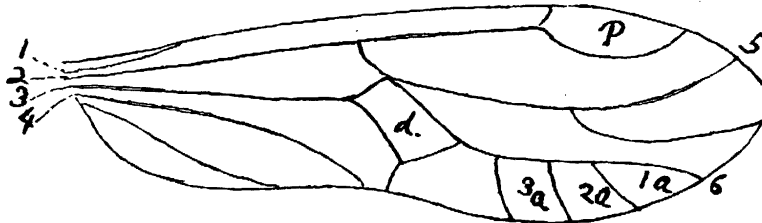


Fig. 2.—A Psocid.

1, costal; 2, subcostal; 3, radius; 4, cubitus; 5, anterior branch of radial sector; 6, posterior branch of radial sector; 1, 2, 3a, posterior cells; P, pterostigma; d, discal cell.

Key to the Genera.

- 1.—Wings with scales and long hairs..... **Amphientomum.**  
Wings without hairs and scales, hyaline.....2.
- 2.—Tarsi 3-jointed.....3.  
Tarsi 2-jointed.....4.
- 3.—Discoidal cell closed..... **Myopsocus.**  
Discoidal cell open..... **Elipsocus.**
- 4.—Discoidal cell closed.....5.  
Discoidal cell open.....6.
- 5.—Discoidal cell four-sided..... **Psocus.**  
Discoidal cell five-sided..... **Amphigerontia.**
- 6.—Third posterior cell elliptical..... **Cæcilus.**  
Third posterior cell elongated..... **Polypsocus.**  
Third posterior cell absent..... **Peripsocus.**

Order **SUBULICORNIA.**

Suborder **PLECTOPTERA.**

**EPHEMERIDÆ.**

The "May flies" are easily recognized by their short antennæ, small hind wings and the caudal setæ. The larvæ are aquatic.

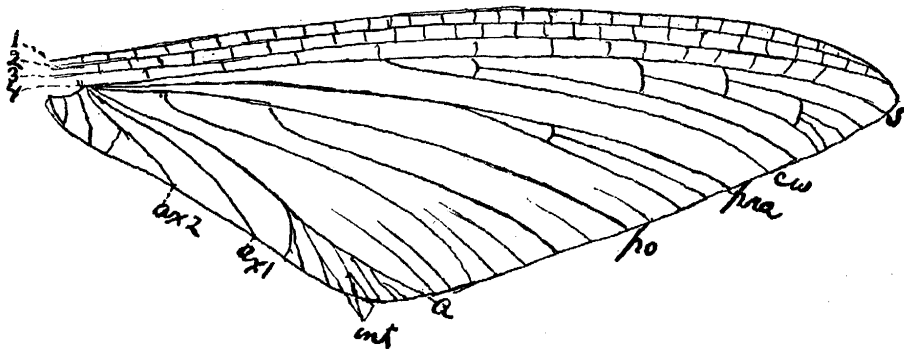


Fig. 3.—An Ephemerid.

1, costal; 2, subcostal; 3, radius; 4, cubitus; 5, sector; cu, cubitus; po, post-branchial; pra, præbranchial; a, anal; int, intercalary veins; ax 1, 1st axillary; ax 2, 2d axillary.

## Key to the Genera.

- 1.—One pair of wings.....2.  
 Two pairs of wings.....3.
- 2.—Three setæ.....**Cænis.**  
 Two setæ.....**Cleon.**
- 3.—Hind tarsi with five joints.....4.  
 Hind tarsi with four joints (or less).....6.
- 4.—Mesothorax scutel very large.....**Bætisca.**  
 Mesothorax scutel normal.....5.
- 5.—Intercalary veins in fore wing.....**Siphilurus.**  
 No intercalary veins, or very few.....**Heptagenia.**
- 6.—Hind wings rudimentary, few veined, small species.....7.  
 Hind wings well developed, many veined.....9.
- 7.—Hind wings very narrow, elongate, bi-veined.....**Centroptilum.**  
 Hind wings broader, obtuse, oblong.....8.
- 8.—Fore wings with cross-veins along whole costal area.....**Callibætis.**  
 Fore wings without cross-veins in basal half of costal area.....**Bætis.**
- 9.—Few cross-veins in basal half of costal area, three setæ, most of cross-veins  
 in apical half of wing, small species.....**Ephemerella.**  
 Unlike above.....10.
- 10.—Anal vein meets postbranchial at base, three setæ.....11.  
 Anal vein separated at base from postbranchial.....12.
- 11.—Median seta subequal to others.....**Leptophlebia.**  
 Median seta far shorter than others.....**Blasturus.**
- 12.—The ♂ with two setæ, ♀ with three, ♀ with hind legs longer than other  
 pairs, white species.....**Polymitarceys.**  
 Unlike above.....13.
- 13.—For males.....14.  
 For females.....16.
- 14.—Median seta very rudimentary.....15.  
 Median seta about as long as others.....**Ephemera.**
- 15.—Eyes separated by a space only as wide as ocellus, front legs not elongated,  
 pale in color.....**Pentagenia.**  
 Eyes separated by a space twice as wide as ocellus, fore legs elongated,  
 darker in color.....**Hexagenia.**
- 16.—Median seta rudimentary.....**Hexagenia.**  
 Median seta subequal to others.....17.
- 17.—Abdominal segments 6-10 over one-half the length of abdomen.  
**Ephemera.**  
 Abdominal segments 6-10 not over one-half the length of abdomen,  
**Pentagenia.**

## Suborder ODONATA.

The "Dragon-flies" are among the most common of our Neuropteroid insects. Our forms have been quite thoroughly studied, but the best work has, unfortunately, been published in an almost inaccessible Belgian journal. If good English descriptions were easily

available, I doubt not that the study of these interesting insects would rival that of butterflies. Our forms have been arranged in seven families.

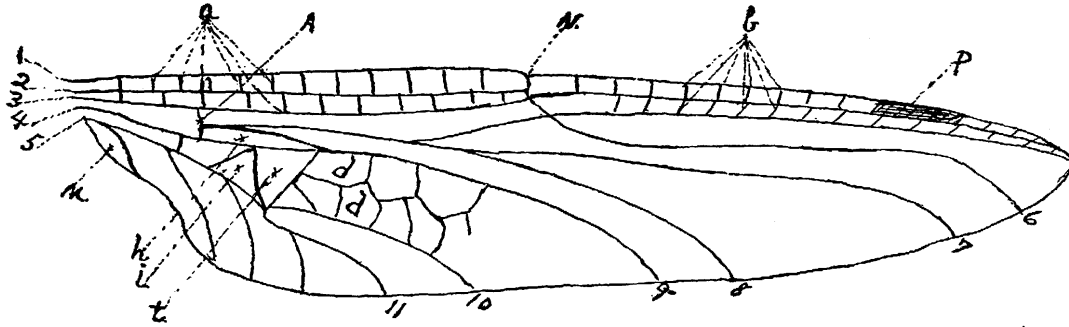


Fig. 4.—Dragon Fly.

1, costal; 2, subcostal; 3, median; 4, submedian; 5, postcostal; 6, nodal sector; 7, subnodal sector; 8, median sector; 9, short sector; 10, upper sector of the triangle; 11, lower sector of the triangle; A, arculus; M, membranule; N, nodus; P, pterostigma; a, antecubitals; b, postcubitals; d, discoidal areolet; h, hypertriangular space; i, internal triangle; t, triangle.

### Key to the Families.

- 1.—Wings alike, vertical in repose, eyes peduncled.....2.  
Wings dissimilar, horizontal in repose, eyes not peduncled.....3.
- 2.—At least five antecubitals.....CALOPTERYGIDÆ.  
But two antecubitals.....AGRIONIDÆ.
- 3.—Antecubitals of first and second series not corresponding, except at base...4.  
Antecubitals of first and second series corresponding.....5.
- 4.—Eyes remote.....GOMPHIDÆ.  
Eyes touching at a single point.....CORDULEGASTERIDÆ.  
Eyes touching for some distance.....ÆSCHNIDÆ.
- 5.—Eyes tubercled behind.....CORDULIDÆ.  
Eyes not tubercled behind.....LIBELLULIDÆ.

### Key to the Genera.

#### CALOPTERYGIDÆ.

- 1.—Basal space free, wings broad.....**Calopteryx.**  
Basal space reticulate, wings narrow.....**Heterina.**

#### AGRIONIDÆ.

- 1.—Median and subnodal sectors arise almost under the nodus.....3.  
Median and subnodal sectors arise nearer the arculus than nodus.....2.
- 2.—Nodal sector arising 1½ cells after the nodus.....**Archilestes.**  
Nodal sector arising 3-5 cells after the nodus.....**Lestes.**
- 3.—Bristles on legs very long, each about twice the distance from the base of one to the next; larger species .....**Argia.**  
Bristles on legs much shorter; smaller species.....**Agrion.**

Subgenera of *AGRION*.

- 1.—No spine at end of eighth segment of ♀ .....2.  
A spine at end of eighth segment of ♀ .....6.
- 2.—Lower sector of triangle arising before the basal postcostal nervure.....3.  
Lower sector of triangle arising at or after the basal postcostal nervure.  
**Erythragrion.**
- 3.—Two postocular spots.....4.  
No postocular spots .....5.
- 4.—Abdomen very slender, color metallic-green.....**Nehalennia.**  
Abdomen less slender, color less metallic.....**Agrion.**
- 5.—Color red.....**Pyrrhosoma.**  
Color bronzed on blue or yellow.....**Erythromma.**
- 6.—Tenth segment of ♂ a little prolonged above .....7.  
Tenth segment of ♂ not prolonged above.....**Enallagma.**
- 7.—Inferior sector of triangle arising before the basal postcostal nervure.....8.  
Inferior sector of triangle arising at basal postcostal nervure...**Oxyagrion.**
- 8.—Two postocular spots .....9.  
No postocular spots.....**Amphiagrion.**
- 9.—Pterostigma of ♂ removed from costa.....**Anomalagrion.**  
Pterostigma of ♂ normal ..... **Ischnura.**

## GOMPHIDÆ.

- 1.—Labium entire.....2.  
Labium bifid, pterostigma very long.....**Tachyopteryx.**
- 2.—Triangle with transverse veins.....3.  
Triangle without transverse veins.....**Gomphus.**
- 3.—Superior side of triangle longer than interior.....4.  
Superior side of triangle shorter than interior.....**Gomphoides.**
- 4.—Feet short.....**Progomphus.**  
Feet very long ..... **Hagenius.**

Subgenera of *GOMPHUS*.

- 1.—Wings flavescent at base.....**Herpetogomphus.**  
Wings not flavescent at base .....2.
- 2.—Thorax almost wholly greenish, dark marks faint, narrow and brownish,  
femora mostly yellow .....**Ophiogomphus**  
Thorax with dark marks more distinct, broader, often confluent, legs mostly  
black .....3.
- 3.—Hind femora extremely long and spinous.....**Dromogomphus.**  
Hind femora not very long or spinous.....4.
- 4.—Dorsum of thorax with a single, median, yellow spot.....**Octogomphus.**  
Dorsum with lateral yellow or green stripes .....**Gomphus.**

## CORDULEGASTERIDÆ.

We have but one genus (*Cordulegaster*) in this family.

## ÆSCHNIDÆ.

- 1.—Triangle with one transversal.....**Gomphaeschna.**  
Triangle with two or more transversals.....2.



- 2.—Subnodal sector furcate in hind wings.....3.  
     Subnodal sector not furcate in hind wings.....4.
- 3.—Anal angle of ♂ rounded, longitudinal vein below subnodal sector does not reach the margin of the wing, but ends in the wing about as far from anterior as from posterior margin..... **Anax.**  
     Anal angle of ♂ acute, above vein ends in posterior margin or near it. **Æschna.**
- 4.—Triangle very long, superior side much more than twice as long as inferior, fore wing broadest beyond nodus..... **Neuræschna.**  
     Triangle shorter, superior side barely twice as long as inferior, fore wing broadest at nodus ..... **Basiaeschna.**

CORDULIDÆ.

- 1.—Hypertriagonal space free, sectors of arculus free at origin.....2.  
     Hypertriagonal space traversed, sectors of arculus more or less united at origin..... **Macromia.**
- 2.—No internal triangle to hind wings..... **Cordulia.**  
     Internal triangle present..... **Epithea.**

LIBELLULIDÆ.

- 1.—Triangle of wings four sided ..... **Nannothemis.**  
     Triangle of wings three sided .....2.
- 2.—Eyes connected in a long space, two rings on abdominal segments 2-4, hind wings very broad at base, sectors of arculus pedicellate..... **Pantala.**  
     Eyes connected in a short space, but one ring on basal abdominal segments..3.
- 3.—Rings on segments 2-4. hind wings extremely broad at base ..... **Tramea.**  
     Rings on segments 2-3, none on fourth, hind wings much less broad .....4.
- 4.—Hind lobe of prothorax large, bilobed .....5.  
     Hind lobe of prothorax small entire .....9.
- 5.—Sectors of arculus pedicellate ..... 6.  
     Sectors of arculus not pedicellate.....8.
- 6.—Abdomen very slender, nearly as long as the wings; large species. **Lepthemis.**  
     Abdomen thicker, shorter than wings; smaller species.....7.
- 7.—Abdomen broad, nearly equally wide throughout..... **Mesothemis.**  
     Abdomen more slender, smaller species. .... **Diplax.**
- 8.—Upper side of triangle as long as inner side, abdomen broad. **Perithemis.**  
     Upper side of triangle much shorter than inner side..... **Celithemis.**
- 9.—Sectors of arculus pedicellate.....10.  
     Sectors of arculus not pedicellate..... **Libellula.**
- 10.—Pterostigma very long, covering four or five cells..... **Orthemis.**  
     Pterostigma covering not more than three cells.....11.
- 11.—Hind wings distinctly broader at base than at nodus..... **Dythemis.**  
     Hind wings not broader at base than at nodus..... **Trithemis.**

Order **NEUROPTERA.**

Suborder PLANIPENNIA.

This is divided into two super-families as below :

- Hind wings with an anal space..... **SIALINA.**
- Anal space absent..... **MEGALOPTERA.**

*SIALINA.*

This embraces two families, separated as follows:

- Prothorax quadrangular.....**SIALIDÆ.**  
 Prothorax long and cylindrical.....**RAPHIDIDÆ.**

**Key to the Genera.**

**SIALIDÆ.**

- 1.—No ocelli.....**Sialis.**  
 Ocelli present.....2.  
 2.—Mandibles prominent, in ♂ elongate.....**Corydalis.**  
 Mandibles less prominent, not elongate.....**Chauliodes.**

**RAPHIDIDÆ.**

- 1.—Ocelli present.....**Inocellia.**  
 Ocelli absent.....**Raphidia.**

Suborder MEGALOPTERA.

This embraces five families, which may be separated as follows:

- 1.—Anterior legs raptorial.....**MANTISPIDÆ.**  
 Anterior legs not raptorial.....2.  
 2.—Wings covered with whitish powder.....**CONIOPTERYGIDÆ.**  
 Wings not powdered.....3.  
 3.—Antennæ clavate.....**MYRMELEONIDÆ.**  
 Antennæ not clavate.....4.  
 4.—Antennæ moniliform.....**HEMEROBIDÆ.**  
 Antennæ setiform.....**CHRYSOPIDÆ.**

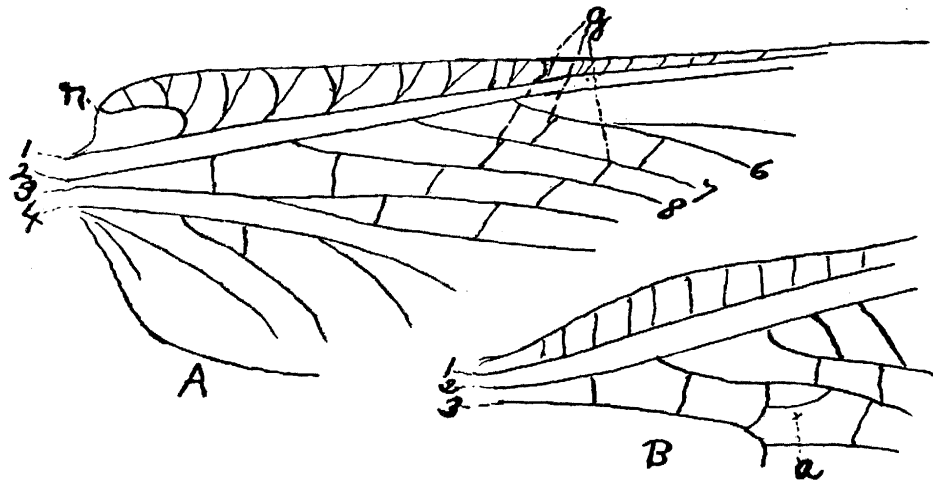


Fig. 5.—Hemerobid.

A, Hemerobius; 1, subcostal; 2, radius; 3, cubitus; 4, postcubitus; 6, 7, 8, sectors; n, recurrent vein; g, gradate veins. B, Chrysopa; a, third cubital cell.

## Key to the Genera.

## CONIOPTERYGIDÆ.

- 1.—Wings ciliated, eyes reniform ..... **Aleuroxia.**  
 Wings not ciliated, eyes globose. .... **Coniopteryx.**

## MANTISPIDÆ.

- 1.—Female with a long ovipositor..... **Symphysis.**  
 Female without ovipositor..... **Mantispa.**

## CHRYSOPIDÆ.

- 1.—A horn between antennæ..... **Meleoma.**  
 No horn ..... 2.  
 2.—Third cubital cell equally divided..... **Nothochrysa.**  
 Third cubital cell unequally divided..... **Chrysopa.**

## HEMEROBIDÆ.

- 1.—Ocelli present ..... **Dilar.**  
 Ocelli absent..... 2.  
 2.—A recurrent vein... .. 3.  
 No recurrent vein..... 4.  
 3.—Last joint of maxillary palpi truncate, large species..... **Polystæchotes.**  
 Last joint of maxillary palpi subulate, small species..... **Hemerobius.**  
 4.—Subcosta joined to the radius at tip ..... 5.  
 Subcosta free from radius at tip..... 6.  
 5.—Subcostal space free ..... **Sisyra.**  
 Subcostal space with one basal veinlet..... **Climacia.**  
 6.—But one sector, often but two wings..... **Psectra.**  
 Several sectors, four wings..... 7.  
 7.—Wings acute at apex, outer margin excised..... **Berotha.**  
 Wings entire, rounded..... **Micromus.**

## MYRMELEONIDÆ.

This comprises two well-marked sub-families.

- Antennæ long, nearly as long as wings..... ..Ascalaphinæ.  
 Antennæ short, not one-third as long as wings.....Myrmeleoninæ.

## Myrmeleoninæ.

- 1.—Claws dilated at base, very stout ..... **Acanthaclisis.**  
 Claws not dilated, slender..... 2.  
 2.—Wings with a black band at tip or ocellate spots ..... **Dendroleon.**  
 Unlike above..... 3.  
 3.—No spurs on tibiæ ..... **Maracanda.**  
 Spurs present..... 4.  
 4.—A double series of costal areoles. at least before pterostigma, spurs no longer  
 than the two basal joints of tarsus..... **Brachynemurus.**  
 A single series of costal areoles. .... **Myrmeleon.**

## Ascalaphinæ.

- |  |                      |
|--|----------------------|
| 1.—Eyes sulcated.....                  | 2.                   |
| Eyes entire.....                       | <b>Ptynx.</b>        |
| 2.—Hind margin of wings entire.....    | <b>Ulula.</b>        |
| Hind margin of hind wings excised..... | <b>Colobopterus.</b> |

## Suborder MECAPTERA.

## PANOPIDÆ.

The “Scorpion-flies,” as they are called, because of the peculiar structure of the male genitalia, are a very well defined group. They are the ancestors of the Diptera. Our forms, though not uncommon, are not numerous. *Panorpa* is restricted to the Eastern States. The larvæ have pro-legs like caterpillars.

## Key to the Genera.

- |                                       |                    |
|---------------------------------------|--------------------|
| 1.—Three ocelli.....                  | 2.                 |
| Ocelli absent.....                    | 4.                 |
| 2.—Two claws to tarsus.....           | 3.                 |
| One claw to tarsus.....               | <b>Bittacus.</b>   |
| 3.—Tarsal claws serrated.....         | <b>Panorpa.</b>    |
| Tarsal claws simple.....              | <b>Panorpodes.</b> |
| 4.—Wingless, or wings very short..... | <b>Boreus.</b>     |
| Wings well developed.....             | <b>Merope.</b>     |

## Order TRICHOPTERA.

Although quite a number of species have been described from our country, but little good work has been done. The classification is in a very unsatisfactory form. The forms are common, easily collected, and not more difficult of study than moths. They are the stock from which Lepidoptera have sprung. I divide the order into seven families, which may be separated as follows :

- |  |                         |
|--|-------------------------|
| 1.—Spines on the legs, three ocelli.....                                 | 2.                      |
| No spines, only hairs and spurs.....                                     | 3.                      |
| 2.—Four spurs on middle tibiæ.....                                       | <b>PHRYGANIDÆ.</b>      |
| Two or three spurs on middle tibiæ.....                                  | <b>LIMNEPHILIDÆ.</b>    |
| 3.—Last joint of palpi not elongated, simple, not flexible.....          | 4.                      |
| Last joint of palpi elongate, flexible, palpi hairy.....                 | 6.                      |
| 4.—Male palpi 4-jointed, ocelli absent.....                              | 5.                      |
| Male palpi 5-jointed, ocelli often present, when absent the spurs 2-4-4. |                         |
|  | <b>RHYACOPHILIDÆ.</b>   |
| 5. No spurs on anterior legs.....  | <b>HYDROPTILIDÆ.</b>    |
| Spurs present on anterior legs.....                                      | <b>SERICOSTOMATIDÆ.</b> |

6.—Basal joint of antenna long and large, wings slender, no ocelli.

LEPTOCERIDÆ.

Basal joint of antenna shorter, wings broader, last joint of palpi multi-articulate.....HYDROPSYCHIDÆ.

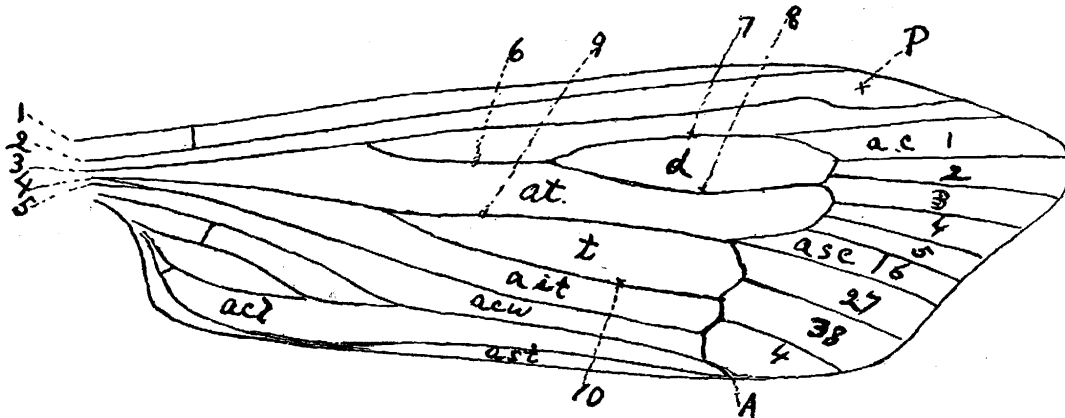


Fig. 6.—A Caddice Fly.

1, costal; 2, subcostal; 3, radius; 4, cubitus; 5, postcubitus; 6, radial sector; 7, radial sector, branch 1; 8, radial sector, branch 2; 9, thyridium; 10, divisialis; d, discoidal cell; t, thyridial cell; at, thyridial area; ait, inclavial area; acu, cubital area; ac, apical cells; asc, subapical cells; P, pterostigma; A, arculus.

### Key to the Genera.

#### PHRYGANIDÆ.

Discoidal cell in fore wing much longer than its pedicel.....**Phryganea.**  
 Discoidal cell in fore wing about as long as its pedicel.....**Agrypnia.**  
 Discoidal cell in fore wing plainly shorter than its pedicel.....**Neuronia.**

#### LIMNEPHILIDÆ.

Spurs 0-2-2 or 1-2-2.....1.  
 Spurs 0-2-4 or 1-2-4.....3.  
 Spurs 0-3-3 or 1-3-3.....**Halesus.**  
 Spurs 1-2-3.....**Ecclisopteryx.**  
 Spurs 1-3-4.....4.  
 1.—Wings thickly pubescent.....2.  
     Pubescence very short and sparse.....**Enocyla.**  
 2.—Hind wings pouched at base.....**Cryptothrix.**  
     Hind wings not pouched at base.....**Platyphylax.**  
 3.—Outer margin of fore wing entire.....**Apatania.**  
     Outer margin of fore wing with a projection.....**Neophylax.**  
 4.—Outer margin of fore wing rounded.....**Anabolia.**  
     Outer margin of fore wing truncate.....**Limnephilus**

#### Sub-genera.

ANABOLIA has two sub-genera, *Anabolia* and *Stenophylax*.

LIMNEPHILUS has six sub-genera as follows: *Limnephilus*, *Goniotaulius*, *Colpotaulius*, *Desmotaulius*, *Glyphotaulius*, *Grammotaulius*.

## SERICOSTOMATIDÆ.

Spurs 1-4-4.....	<b>Nosopus.</b>
Spurs 2-4-4 .....	2.
Spurs 2-2-4.....	1.
Spurs 2-2-2.....	<b>Dasystema.</b>
Spurs 2-3-3 .....	<b>Brachycentrus.</b>
1.—Discoidal cell in hind wing open .....	<b>Sericostoma.</b>
Discoidal cell in hind wing closed.....	<b>Notidobia.</b>
2.—Basal joint of antenna longer than the head.....	3.
Basal joint of antenna about as long as head.....	<b>Helicopsyche.</b>
3.—End of abdomen suddenly dilated. ....	<b>Sphinctogaster.</b>
End of abdomen normal.....	4.
4.—Discoidal cell in hind wing open.....	<b>Silo.</b>
Discoidal cell in hind wing closed .....	<b>Mormonia.</b>

## HYDROPHILIDÆ.

We have but one genus, *Phryxicomia*.

## RHYACOPHILIDÆ.

1.—No ocelli.....	<b>Beræa.</b>
Ocelli present.....	2.
2.—Spurs 3-4-4 .....	<b>Rhyacophila.</b>
Spurs 2-4-4.....	<b>Agapetus.</b>
Spurs 1-4-4 or 0-4-4.....	<b>Chimarra.</b>

## LEPTOCERIDÆ.

1.—Last joint of maxillary palpi short, wings with a median cell, spurs ♂ 2-4-2, ♀ 2-4-4.....	<b>Heteroplectron.</b>
Last joint long, filiform .....	2.
2.—Four spurs on middle tibia.....	3.
Two spurs on middle tibia.....	4.
3.—Spurs 2-4-3.....	<b>Aniscentropus.</b>
Spurs 2-4-4.....	<b>Molanna.</b>
4.—Spurs 2-2-2.....	<b>Leptocerus.</b>
Spurs 0-2-2 or 1-2-2.....	5.
5.—Wings black .....	<b>Mystacides.</b>
Wings pale.....	<b>Setodes.</b>

## HYDROPSYCHIDÆ.

1.—No ocelli.....	2.
Ocelli present.....	<b>Philopotamus.</b>
2.—Spurs 1-4-4 .....	<b>Smicridea.</b>
Spurs 2-4-4 or 2-2-4.....	3.
Spurs 3-4-4.....	<b>Polycentropus.</b>
3.—Spurs 2-4-4 .....	4.
Spurs 2-2-4, large, well-marked species.....	<b>Macronema.</b>
4.—Second joint of maxillary palpus much longer than third or fourth.	<b>Hydropsyche.</b>
Second joint maxillary palpus not longer than third or fourth.....	5.
5.—Maxillary palpus, joints two, three and four equal.....	<b>Psychomyia.</b>
Third joint longer than second or fourth.....	<b>Tiuodes.</b>

# Catalogue of the Species.

## PERLIDÆ.

### PTERONARCYS Newm.

- proteus* Newm., H. 1, p. 14; H. 13, p. 281. N. Y., B. Am., Vt., Cal.  
*californicus* Newp., H. 1, p. 16; H. 13, p. 283. B. Am., Utah, Wash., Cal., Col.  
*biloba* Newm., H. 1, p. 15; H. 13, p. 284. N. Y., Minn., Can.  
*bicarinatus* Prov., P. 1, 69.  
*nobilis* Hag., H. 1, p. 15; H. 13, p. 285. N. Y., Tenn.  
*pictetii* Hag., H. 13, p. 286. Pa., Minn., Can.  
*regalis* Newm., H. 1, p. 15; H. 13, p. 286. B. Am., Mass., Me., N. Y., Minn., Can.  
*insignis* Pict., H. 1, p. 16.  
*flavicornis* Prov., P. 1, p. 70.  
*rectus* Prov., P. 1, p. 68. Can.  
*regularis* Hag., H. 18, p. 573. Nev.  
*badia* Hag., H. 18, p. 573. Wy., Utah, Col.  
 (?) *dorsata* Say, H. 1, p. 20. Pa.

### ACRONEURIA Pict.

- abnormis* Newm., H. 1, p. 17. U. S., Can.  
*rupinsulensis* Walsh, W. 1, p. 363. Ill.  
*ruralis* Hag., H. 1, p. 18. Mo.  
*arida* Hag., H. 1, p. 18. N. Y., Pa.  
*hieroglyphica* Prov., P. 1, 72. Can.  
*navalis* Prov., P. 1, p. 73. Can.  
*riparia* Prov., P. 1, 74. Can.

### DICTYOPTERYX Pict.

- signata* Hag., H. 18, p. 575. Col., Cal., Oreg.

### ISOGENUS Newm.

- frontalis* Newm., H. 1, p. 18. Can., N. Y., Ohio.  
*sulcata* Prov., P. 1, p. 74.  
*elongatus* Hag., H. 18, p. 576. Col., Utah.  
*colubrinus* Hag., H. 18, p. 576. Idaho, B. Am.  
*clio* Newm., H. 1, p. 19. Ga.  
*drymo* Newm., H. 1, p. 19. Ga.  
*quebecensis* Prov., P. 1, 72. Can.

### PERLA Geoff.

- annulipes* Hag., H. 1, p. 22. D. C.  
*decipiens* Walsh, W. 1, p. 364. Ill.  
*ebria* Hag., H. 18, p. 577. Col.  
*elongata* Walsh, W. 1, p. 366. Ill.  
*ephyre* Newm., H. 1, p. 28. Ga., N. Y., La., Va.  
*flavescens* Walsh, W. 1, p. 363. Ill., Can.  
*marginipes* Prov., P. 1, p. 73.  
*lurida* Hag., H. 1, p. 21. La.

*lycorias* Newm., H. 1, p. 21. N. Y.  
*olivacea* Walk., H. 1, p. 23. Can.  
*placida* Hag., H. 1, p. 28. N. Y., D. C.  
*postica* Walk., H. 1, p. 23. La., D. C., Can.  
*similis* Hag., H. 1, p. 26. Pa., Md.  
*sobria* Hag., H. 18, p. 577. Col.  
*tristis* Hag., H. 1, p. 22. N. Y., D. C.  
*varians* Walsh, W. 1, p. 364. Ill.  
*xanthenes* Newm., H. 1, p. 26. Pa., Ga.  
*capitata* Pict., H. 1, p. 22. U. S. [no definite locality.]  
*clymene* Newm., H. 1, p. 29. Ga.  
*couloni* Pict., H. 1, p. 20. U. S. [no definite locality.]  
*immarginata* Say, H. 1, p. 20. Ohio.  
*media* Walsh, H. 1, p. 24. Can.  
*naica* Prov., P. 1, p. 75. Can.  
*picta* Pict., H. 1, p. 27. N. Am. [no definite locality.]

**PSEUDOPERLA** [Note 1.]

*occipitalis* Pict., H. 1, p. 27. Pa., N. Y., D. C., Md.  
*producta* Walsh, W. 1, p. 365. Ill.  
*fumipennis* Walsh, W. 1, p. 366. Ill.

**CHLOROPERLA** Pict.

*bilineata* Say, H. 1, p. 30. Ill., Can., N. Y., Ohio.  
*brunnipennis* Walsh, W. 1, p. 367. Ill.  
*imbecilla* Say, H. 1, p. 31. Ohio, N. Y.  
*nana* Walsh, W. 1, p. 367. Ill., Can.  
*severa* Hag., H. 1, p. 30. Alaska, Can.  
*citrinella* Newp., H. 1, p. 31. Can., Nova Scotia.  
*decisa* Walk., H. 1, p. 30. Can.  
*decolorata* Walk., H. 1, p. 29. B. Am.  
*guerinii* Pict., H. 1, p. 29. La.  
*maculata* Pict., H. 1, p. 29. Pa.

**ISOPTERYX** Pict.

*cydippe* Newm., H. 1, p. 31. Ga., N. Y., D. C., Ill.

**CAPNIA** Pict.

*minima* Newp., H. 1, p. 33. Can., Ill.  
*necydaloides* Pict., H. 1, p. 32. D. C., N. Y.  
*pygmæa* Burm., H. 1, p. 32. Pa., N. Y., Newfoundland.  
*vernalis* Newp., H. 1, p. 33. Can.

**TÆNIOPTERYX** Pict.

*fasciata* Burm., H. 1, p. 34. Pa., D. C., Ill.  
*frigida* Hag., H. 1, p. 35. Md.  
*glacialis* Newp., H. 1, p. 36. Can.  
*maura* Pict., H. 1, p. 35. Pa., S. C., Can.  
*chicoutimiensis* Prov., P. 1, p. 75.  
*similis* Hag., H. 1, p. 34. D. C.



**NEMOURA** Pict.

- albidipennis* Walk., H. 1, p. 36. D. C., Ill., Nova Scotia.  
*completa* Walk., H. 1, p. 36. Ill., Nova Scotia.  
*incerta* Prov., P. 1, p. 217. Can.  
*completa* Prov., not Walk.  
*perfecta* Walk., H. 1, p. 37. N. Y., Can., Nova Scotia.  
*nigritta* Prov., P. 1, p. 79.

**LEUCTRA** Steph.

- brunnea* Prov., P. 1, p. 80. Can.  
*ferruginea* Walk., H. 1, p. 37. Nova Scotia.  
*tenella* Prov., P. 1, p. 80. Can.  
*tenuis* Pict., H. 1, p. 37. Pa., D. C., N. Y.

**TERMITIDÆ.****CALOTERMES** Hagen.

- castaneus* Burm., H. 1, p. 1. Cal.  
*marginipennis* Latr., H. 1, p. 2. Cal.

**TERMOPSIS** Heer.

- angusticollis* Walk., H. 1, p. 3. Pacific States, La.  
*occidentis* Walk., H. 1, p. 3. Cal.

**TERMES** Linn.

- flavipes* Koll., H. 1, p. 3. U. S.  
*cinereus* Buck., B. 1, p. 213. Texas.  
*tubiformans* Buck., B. 1, p. 214. Texas.

**EMBIIDÆ.****OLIGOTOMA** Hag.

- hubbardii* Hag., H. 26, p. 142. Fla.

**ATROPIDÆ.****HYPERETES** Hag.

- tessulatus* Hag., H. 25, p. 316. Mass., Ky., Me.

**LEPINOTUS** Hag.

- piceus* Mots., H. 1, p. 8; H. 25, p. 314. Cal.  
*inquilinus* Hey., H. 25, p. 309. Mass.

**CLOTHILLA** West.

- annulata* Hag., H. 25, p. 307. Mass.  
*pulsatoria* Linn., H. 25, p. 300. Mass., N. Brunswick.

**ATROPOS** Leach.

- divinatoria* Fab., H. 1, p. 8; H. 25, p. 289. Mass., Can., Ky., Mich., N. J.  
*purpurea* Aaron, A. 1, p. 37. Pa.

**DORYPTERYX** Aaron.

- pallida* Aaron, A. 1, p. 38. Pa.

**PSOCIDÆ.****CÆCILIUS** Curtis.

- aurantiacus* Hag., H. 1, p. 14. Ga., Ill.  
*confluens* Walsh, W. 2, p. 185. Ill.  
*permadidus* Walsh, W. 2, p. 185. Ill.  
*rufus* Walsh, W. 2, p. 185. Ill.  
*definitus* Aaron, A. 1, p. 38. Pa.  
*subflavus* Aaron, A. 4, p. 13. Texas.  
*impactus* Aaron, A. 4, p. 14. Pa.  
*nubilus* Aaron, A. 4, p. 13. Texas.  
*pedicularis* Linn., H. 24, p. 220. N. Y., Ill., Mass.  
*salicis* Fitch, H. 1, p. 13.  
*geologus* Walsh, W. 1, p. 362.  
 (?) *pusillus* Harris, Harr. 1, p. 331.

**ELIPSOCUS** Hagen.

- conterminus* Walsh, W. 2, p. 185. Ill.  
*pumilis* Hag., H. 1, p. 9. N. Y.  
*unipunctatus* Muell., H. 24. N. Y., Mass.  
*signatus* Hag., H. 1, p. 9.  
*gracilis* Harris, Harr. 1, p. 332.  
*maculosus* Aaron, A. 1, p. 40. Pa.

**MYOPSOCUS** Hagen.

- lugens* Hag., H. 1, p. 9. D. C., Mass.  
*nubilus* Harris, Harr. 1, p. 331.

**PERIPSOCUS** Hagen.

- madescens* Walsh, W. 2, p. 186. Ill.  
*madidus* Hag., H. 1, p. 12. N. Y., Ga.

**POLYPSOCUS** Hagen.

- corruptus* Hag., H. 1, p. 13. D. C., Ga., Ill.  
*abruptus* Hag., H. 1, p. 13.

**AMPHIENTOMUM** Pict.*Echmepteryx* Aaron.

- hageni* Packard, Pack. 2, p. 405. Me., Mass., Pa.  
*agilis* Aaron, A. 4, p. 17. [Note 2.]

**AMPHIGERONTIA** Kolbe.*Blaste* Kolbe.

- juvenilis* Kolbe, K. 1, p. 65. Pa.  
*lichenatus* Walsh, W. 2, p. 183; H. 24, p. 196. Ill.  
*mœstus* Hag., H. 1, p. 11; H. 24, p. 196. N. Eng., Ga.  
*variegatus* Fab., see European authors. N. Y., Ga.

**PSOCUS** Latr.

- amabilis* Walsh, W. 1, p. 362. Ill.  
*atratus* Aaron, A. 1, 39. Pa.

- bifasciatus* Walsh, W. 2, p. 183. Ill.  
*campestris* Aaron, A. 4, p. 15. Texas.  
*contaminatus* Hag., H. 1, p. 10. N. Y., Md., D. C., Ill.  
*inornatus* Aaron, A. 1, p. 39. Pa.  
*leidyi* Aaron, A. 4, p. 15. N. Am. [no definite locality.]  
*lucidus* Harris, Harr. 1, p. 328. Mass.  
*novascotiæ* Walk., H. 1, p. 11. Nova Scotia, N. Y., Ill.  
*perplexus* Walsh, W. 1, p. 361. Ill.  
*pollutus* Walsh, W. 1, p. 361. Ill.  
*purus* Walsh, W. 1, p. 361. Ill.  
*quadrifasciatus* Harris, Harr. 1, p. 331. Mass.  
*quietus* Hag., H. 1, p. 12. N. Y., Ga.  
*semistriatus* Walsh, W. 1, p. 361. Ill.  
*sexpunctatus* Linné, A. 1, p. 39. Pa.  
*sparsus* Hag., H. 1, p. 8. D. C., Md., W. Va., Mass.  
*infuscatus* Harris, Harr. 1, p. 332.  
*speciosus* Aaron, A. 1, p. 40. N. C.  
*striatus* Walk., H. 1, p. 11. Nova Scotia, N. Y., D. C., Pa., Mass.  
*frontalis* Harris, Harr. 1, p. 330.  
*texana* Aaron, A. 4, p. 16. Texas.  
 var. *submarginatus* Aaron.  
*trifasciatus* Prov., P. 1, p. 65. Can.  
*nigrofasciatus* Hag. mss.  
*variabilis* Aaron, A. 1, p. 38. Pa.  
*venosus* Burm., H., 1, p. 10. Eastern U. S.  
*gregarius* Harris, Harr. 1, p. 329.  
*canadensis* Prov., P. 1, p. 65. Can. [Note 3.]  
*citricola* Ashm., Ash. 1, p. 228. Fla.  
*flavidus* Prov., P. 1, p. 64. Can.

### EPHEMERIDÆ.

#### POLYMITARCYS Eaton.

- albus* Say, H. 1, p. 40; E. 2, p. 47. Can., N. Y., N. J., La.  
*puella* Pict., H. 1, p. 40.  
*Ephoron leukon* Will., Will. 1, p. 71-73.

#### HEXAGENIA Walsh.

- bilineata* Say, E. 2, p. 50. Eastern U. S.  
*limbata* Hag. not Pict., H. 1, p. 41.  
*oculata* Walk., H. 1, p. 43.  
*limbata* Pict. U. S.  
*bilineata* Hag. not Say, H. 1, p. 41.  
*variabilis* Eaton, E. 2, p. 55. [Note 4.]  
*munda* Eaton, E. 2, p. 53. N. Car.  
*venusta* Eaton, E. 2, p. 54. Texas, Utah.

#### PENTAGENIA Walsh.

- vittigera* Walsh, W. 1, p. 373; E. 2, p. 76. Ill., Texas.  
*quadripunctata* Walsh, W. 2, p. 198; E. 2, p. 77. Ill., La.

**EPHEMERA** Linn.

- compar* Hag., H. 18, p. 578; E. 2, p. 65. Col.  
*decora* Hag., not Walk., H. 1, p. 38; H. 18, p. 578. New England, N. Y.  
*varia* Eaton, E. 2, p. 69.  
*flaveola* Walsh, W. 1, p. 377; E. 2, p. 71. Ill.  
*guttulata* Pict., H. 18, p. 579; E. 2, p. 66. N. Y., Can.  
*myops* Eaton, not Walsh, E. 1, p. 71.  
*simulans* Prov., not Walk., P. 1, p. 81.  
*simulans* Walk., H. 1, p. 38; H. 18, p. 580; E. 2, p. 67. Can., Ill., Me., N. Y.  
*natata* Walk., H. 1, p. 39.  
*guttulata* Eaton, not Pict., E. 1, p. 69 (in part).  
*decora* Walk., not Hag.  
*myops* Walsh, W. 2, p. 207; E. 2, p. 72. Ill.

**BLASTURUS** Eaton.

- cupidus* Say, H. 1, p. 51; E. 2, p. 101. Can., N. Y., D. C., Ill.  
*P. concinnus* Walk., H. 1, p. 51.  
*ignava* Hag., H. 1, p. 47.  
*gravastellus* Eaton, E. 2, p. 102. Mont.  
*nebulosus* Walk., W. 1, p. 372.  
*P. odonatus* Walsh, W. 1, p. 372.

**SIPHLURUS** Eaton. [Note 5.]

- alternatus* Say, H. 1, p. 49; E. 2, p. 219. N. Y., Ill., Can.  
*B. alternans* Prov., P. 1, p. 82.  
*B. femorata* Prov., not Say, P. 1, p. 83.  
*B. annulata* Walk., H. 1, p. 48.  
*aridus* Say, H. 1, p. 46; E. 2, p. 206. Ill., D. C., Ind., N. Y.  
*bicolor* Walk., H. 1, p. 43; E. 2, p. 221. Can.  
*dissitus* Eaton, E. 2, p. 210. Cal.  
*I. manca* Eaton, ♂ not ♀, E. 1, p. 134.  
*exquisitus* Eaton, E. 2, p. 212. Wash., Oreg.  
*femoratus* Say, H. 1, p. 48; E. 2, p. 220. Ill., Ohio, N. Y.  
*B. interlineata* Walsh, W. 2, p. 190.  
*intermedius* Eaton, E. 2, p. 207. Ariz.  
*mancus* Eaton, E. 2, p. 206. Texas, Mont.  
*miris* Eaton, E. 2, p. 221. N. H.  
*occidentalis* Eaton, E. 2, p. 218. Col., Wy., Nev., Wash.  
*H. brunnea* Hag., ♀ not ♂, H. 18, p. 581.  
*quebecensis* Prov., P. 1, p. 83; E. 2, p. 297. Can.  
*siccus* Walsh, W. 1, p. 371; E. 2, p. 208. Ill., N. C.  
*subnotatus* Eaton, E. 2, p. 211. Col.  
*typicus* Eaton, E. 2, p. 222. Mass.

**HEPTAGENIA** Walsh. [Note 5.]

- basalis* Walk., H. 1, p. 50; E. 2, p. 298. Winnipeg.  
*brunnea* Hag., H. 18, p. 581, ♂ and ♀. Nev.  
*hageni* Eaton, E. 2, p. 253.  
*canadensis* Walk., H. 1, p. 47; E. 2, p. 278. Can.  
*cruentata* Walsh, W. 2, p. 205; E. 2, p. 300. Ill.  
*elegantula* Eaton, E. 2, p. 253. Col., Ariz.

- flavescens* Walsh, W. 1, p. 373; E. 2, p. 266. Ill.  
*fusca* Walk., H. 1, p. 45. Can.  
*jejuna* Eaton, E. 2, p. 252.  
*geminata* Eaton, E. 2, p. 250. Col.  
*integrum* Eaton, E. 2, p. 248. Oreg., Wash.  
*interpunctata* Say, H. 1, p. 44; E. 2, p. 267. N. Y., Ill., Ind., D. C., Va.  
*ongimanus* Eaton, E. 2, p. 245. Col.  
*luridipennis* Burm., H. 1, p. 49; E. 2, p. 280. Can.  
*novaboracana* Licht., H. 1, p. 50.  
*maculipennis* Walsh, W. 2, p. 206; E. 2, p. 301. Ill.  
*manifesta* Eaton, E. 2, p. 253. Ill.  
*debilis* Walsh, not Walk., W. 1, p. 371.  
*minus* Eaton, E. 2, p. 249. Col.  
*nitidus* Eaton, E. 2, p. 246. Oreg., Cal.  
*par* Eaton, E. 2, p. 249. Ariz.  
*pudica* Hag., H. 18, p. 581; E. 2, p. 298. Col.  
*pulchella* Walsh, W. 1, p. 375; E. 2, p. 299. Ill., Md., D. C., La.  
*quebecensis* Prov., P. 1, p. 84; E. 2, p. 297. Can.  
*simplex* Walsh, W. 2, p. 204; E. 2, p. 300. Ill.  
*terminata* Walsh, W. 1, p. 376; E. 2, p. 299. Ill.  
*interpunctata* Prov., not Say, P. 1, p. 83.  
*verticis* Say, H. 1, p. 46; E. 2, p. 278. Can., N. Y., D. C., Md., Tenn., Ga.  
*flaveola* Walk., H. 1, p. 44.  
*vicaria* Walk., H. 1, p. 48; E. 2, p. 280. Can., D. C., Ill., Ga.  
*pudica* Hag., H. 1, p. 39.  
*vitrea* Walk., E. 2, p. 254. Can.

**BÆTISCA** Walsh.

- obesa* Say, H. 1, p. 45; E. 2, p. 226. Cal., Ill., Ind., Mich.

**LEPTOPHLEBIA** West.

- debilis* Walk., H. 1, p. 86; E. 2, p. 98. Nova Scotia.  
*gregalis* Eaton, E. 2, p. 98. Mt. Hood, Oreg.  
*mollis* Eaton, E. 2, p. 97. N. H., N. Y., N. C., Wash.  
*pallipes* Hag., H. 18, p. 582. Nev.  
*memorialis* Eaton, E. 2, p. 98.  
 (?) *præpedita* Eaton, E. 2, p. 99. Mass.  
*rufivenosa* Eaton, E. 2, p. 99. Cal., Wash., Oreg.  
*vaciva* Eaton, E. 2, p. 97. Mt. Hood, Oreg.

**EPHERELLA** Walsh.

- consimilis* Walsh, W. 1, p. 378; E. 2, p. 130. Ill.  
*excrucians* Walsh, W. 1, p. 397; E. 2, p. 130. Ill., Mich., N. Y.  
*fuscata* Walk., H. 1, p. 47. Can.  
*walkeri* Eaton, E. 2, p. 129.  
*grandis* Eaton, E. 2, p. 128. Col.  
*inermis* Eaton, E. 2, p. 127. Col.  
*invaria* Walk., H. 1, p. 48; E. 2, p. 129. Can.

**BÆTIS** Lach.

- bioculata* Pict., H. 1, p. 53; E. 2, p. 158. Can.  
*fluctuans* Walsh, W. 1, p. 379. Ill.  
*posticata* Say, H. 1, p. 53; E. 2, p. 169. Ind.  
*propinqua* Walsh, W. 2, p. 207; E. 2, p. 169. Ill.  
*vicina* Walsh, not Hag., W. 1, p. 380.  
*pygmæa* Hag., H. 1, p. 54; E. 2, p. 170. Can.  
*rubescens* Prov., P. 1, p. 84; E. 2, p. 169. Can.  
*unicolor* Hag., H., 1, p. 54. D. C.  
*hageni* Eaton, E. 2, p. 169.

**CENTROPTILUM** Eaton.

- luteolum* Muell., E. 2, p. 175. Arctic America.

**CALLIBÆTIS** Eaton.

- pictus* Eaton, E. 2, p. 190. Cal., Tex.  
*tessalata* Hag., H. 1, p. 50. Cal., Wash.  
*hageni* Eaton, E. 2, p. 192.  
*ferruginea* Walsh, W. 1, p. 379; E. 2, p. 193. Ill., Can., N. Y.  
*undata* Hag., not Pict., H. 1, p. 53.

**CLEON** Leach.

- dubium* Walsh, W. 1, p. 380; E. 2, p. 190. Ill.  
*mendax* Walsh, W. 1, p. 381; E. 2, p. 190. Ill., Mich., Mass.  
*vicinum* Hag., H. 1, p. 54; E. 2, p. 190. D. C.

**CÆNIS** Steph.

- diminuta* Walk., H. 1, p. 55; E. 2, p. 147. Fla., Pa., N. Y., D. C.  
*amica* Hag., H. 1, p. 55.  
*hilaris* Say, H. 1, p. 54; E. 2, p. 147. Ind., N. Y., Ill.

**CALOPTERYGIDÆ.****CALOPTERYX** Leach.

- æquabilis* Say, H. 31, p. 246. Can., Me., Mass.  
*virginica* Selys, in part.  
*hudsonica* Hag., H. 31, p. 247. Lake Superior.  
*virginica* Selys, in part.  
*yakima* Hag., H. 31, p. 248. Wash.  
*amata* Hag., H. 31, p. 244. N. H.  
*angustipennis* Selys, H. 1, p. 56; H. 31, p. 242. Ky., Ga.  
*dimidiata* Burm., H. 1, p. 57; H. 31, p. 245. Ky., Ga., Fla.  
*apicalis* Burm., H. 1, p. 56; H. 31, p. 246. Pa., Del., Mass.  
*maculata* Beauv., H. 1, p. 57; H. 31, p. 249. Eastern United States.  
*virginica* Selys, in part.

**HETÆERINA** Hagen.

- americana* Fab., H. 1, p. 60. Mass., Me., Md., D. C., Ind., Ill., Wis., Mo.  
*pseudamericana* Walsh, W. 2, p. 223.

*basalis* Hag. H. 1, p. 60. Texas.  
*texana* Walsh, W. 2, p. 237.  
*bipartita* Selys, S. 3, p. 17. Texas.  
*californica* Selys, H. 1, p. 59. Cal., Mont., Yellowstone.  
*sclerata* Walsh, W. 2, p. 227. Ill.  
*sempronia* Selys, H. 1, p. 62. Texas.  
*septentrionalis* Selys, H. 1, p. 59. Ga.  
*titia* Drury, H. 1, p. 61. Texas.  
*tricolor* Burm., H. 1, p. 61. Pa., Ill., Ga., Texas.  
*rupamnensis* Walsh, W. 2, p. 230.  
*rupinsulensis* Walsh, W. 1, p. 383.  
*limbata* Selys, S. 3, p. 49.

## AGRIONIDÆ.

### ARCHILESTES Selys.

*grandis* Ramb., H. 1, p. 66; S. 1, p. 202. Texas.

### LESTES Leach.

*alacris* Hag., H. 1, p. 67; S. 1a, p. 212. Texas.  
*congener* Hag., H. 1, p. 67; S. 1a, p. 224. N. Y., Del., Mo.  
*disjuncta* Selys, S. 1a, p. 210. Nova Scotia, Me., Ill., D. C.  
*eurina* Say, H. 1, p. 70; S. 1a, p. 224; Scudd., 2, p. 66. Ill., N. Y., Me.  
*forcipata* Ramb., S. 1a, p. 211. N. J., Ga., Ill.  
*hamata* Hag., H. 1, p. 70.  
*hamata* Selys, S. 1a, p. 208. D. C., Ill., Mo., N. Y., Me.  
*forcipata* Hag., not Ramb., H. 1, p. 71.  
*inæqualis* Walsh, W. 1, p. 385. Ill., Me.  
*rectangularis* Say, H. 1, p. 66; S. 1a, p. 214. Ind., Mass., Md., N. Y., D. C., Ill., Ga., Me.  
*simplex* Hag., H. 1, p. 68; S. 1a, p. 206. Texas.  
*stulta* Hag., H. 1, p. 67; S. 1a, p. 212. Cal. [Note 6.]  
*unguiculata* Hag., H. 1, p. 70; S. 1a, p. 207. N. J., Mo., Me., Ill.  
*vidua* Hag., H. 1, p. 69; S. 1a, p. 225. La. [Note 6.]  
*vigilax* Hag., S. 1a, p. 214. N. J., Fla.

### ARGIA Ramb.

*apicalis* Say, H. 1, p. 91; S. 1a, p. 414. Va., D. C., Mo., La., Me.  
*bipunctulata* Hag., H. 1, p. 90; S. 1a, p. 415. N. J., Ga., N. Y.  
*fumipennis* Burm., H. 1, p. 97; S. 1a, p. 405. Ky., Ga., Fla.  
*mœsta* Hag., H. 1, p. 94; S. 1a, p. 384. Texas.  
*putrida* Hag., H. 1, p. 96; S. 1a, p. 385. Md., Va., Wis., Ill., Texas, Me.  
*sedula* Hag., H. 1, p. 94; S. 1a, p. 411. Va., Texas.  
*tibialis* Ramb., S. 1a, p. 413. Va., Ill., Ga., Fla.  
*fontium* Hag., H. 1, p. 91.  
*binotatum* Walsh, W. 1, p. 387.  
*violacea* Hag., H. 1, p. 80; S. 1a, p. 404. Md., Va., D. C., N. Y., Me.  
*vivida* Hag., S. 1a, p. 406. Texas, Cal.

**ANOMALAGRION** Selys.

*hastatum* Say, H. 1, p. 77; S. 1b, 255. N. J., Md., Pa., Ind., Fla., La., Texas.

**ICHNURA** Charp.

*cervula* Selys, S. 1b, p. 262. Cal.  
*defixa* Hag., H. 1, p. 80; S. 1b, p. 261. Cal.  
*perparva* McLach., S. 1b, p. 263. Texas.  
*prognatha* Hag., H. 1, p. 83; S. 1b, p. 259. Va.  
*ramburi* Selys, S. 1b, p. 272. N. Y., Md., La., Fla., Me.  
*iners* Hag., H. 1, p. 75.  
*credulum* Hag., H. 1, p. 80.  
*verticalis* Say, H. 1, p. 82; S. 1b, p. 265. Eastern U. S.  
*ramburi* Hag., not Selys, H. 1, p. 76.

**AMPHIAGRION** Selys.

*saucium* Burm., H. 1, p. 85; S. 1b, p. 285. Me., Mass., N. Y., Ill., Md., Pa., D. C.

**OXYAGRION** Selys.

*rufulum* Hag., H. 1, p. 86; S. 1b, p. 302. Cal.

**NEHALENNIA** Selys.

*irene* Hag. H. 1, p. 74; S. 1b, p. 1240. Ill., Wis., N. J., Me., Mass., N. Y., Fla.  
*posita* Hag., H. 1, p. 77; S. 1b, p. 1242. Mass., Pa., D. C., Ga.

**PYRRHOSOMA** Charp.

*abbreviata* Selys, S. 1b, p. 1299. Cal.

**ERYTHROMMA** Selys.

(?) *condita* Hag., S. 1b, p. 1305. Md., D. C., N. Y. Me.

**ENALLAGMA** Selys.

*annexa* Hag., H. 1, p. 87; S. 1b, p. 506. Mass., N. H., Me. [Note 7.]  
*aspersa* Hag., H. p. 97; S. 1b, p. 518. N. Y., N. J., Ill.  
*boreale* Selys, S. 1b, p. 507. Newfoundland. [Note 7.]  
*civile* Hag., H. 1, p. 88; S. 1b, p. 514. N. Y., Pa., Md., D. C., Va., Mo., Texas.  
 Me., Can.  
*canadensis* Prov., P. 1, p. 94.  
*divagans* Selys, S. 1b, p. 521. Mass.  
*doubledayi* Selys, H. 1, p. 89; S. 1b, p. 502. Fla.  
*dura* Hag., H. 1, p. 87; S. 1b, p. 500. Md., La., Fla.  
*ebria* Hag., H. 1, p. 89; S. 1b, p. 513. Ill., Mo., N. Y., Me.  
*exsulans* Hag., H. 1, p. 82; S. 1b, p. 522. Pa., Md., D. C., Va., Ill., Mo., Tex., Me.  
*hageni* Walsh, W. 1, p. 386; S. 1b, p. 512. Can., Mass., Md., Ill., Mo., Me.  
*polluta* Hag., H. 1, p. 83; S. 1b, p. 527. Fla., Me.  
*prævara* Hag., H. 1, p. 88; S. 1b, p. 516. La.  
*robusta* Selys, S. 1b, p. 509. Cal. [Note 7.]  
*signata* Hag., H. 1, p. 84; S. 1b, p. 525. N. Y., Ill., Mo., Ga., La., Me., Md.



*dentiferum* Walsh, W. 2, p. 256.  
*traviata* Selys, S. 1b, p. 519. Mass., N. Y.  
*aspersum* Hag. (in part).

**AGRION** Selys.

*interrogatum* Hag., S. 1b, p. 1254. Saskatschewan.  
*resolutum* Hag., S. 1b, p. 1263. Brit. Am.  
 (?) *exclamationis* Selys, S. 1b, p. 1251. Cal.  
 (?) *antennatum* Say, H. 1, p. 73. Ind.

**ERYTHRAGRION** Selys.

*salvum* Hag., H. 1, p. 85; S. 1c, p. 962. Texas.  
*boucardi* Selys.

**GOMPHIDÆ.****HERPETOGOMPHUS** Selys.

*compositus* Selys, H. 1, p. 99; S. 8, p. 740. Texas, Oreg., Yellowstone.  
*designatus* Selys, H. 1, p. 99. Texas.

**OPHIOGOMPHUS** Selys.

*bison* Selys, S. 9, p. 496; S. 10, p. 436. Cal.  
*colubrinus* Selys, H. 1, p. 101; S. 10, 438. Can., Brit. Am., N. H.  
*mainensis* Walsh, W. 2, p. 255; S. 10, p. 435. Me.  
*morrisoni* Selys, S. 11, p. lxxv. Nev.  
*rupinsulensis* Walsh, W. 1, p. 388; S. 10, p. 434. Ill., Wis., Me., Can., N. Y.  
*severus* Hag., H. 18, p. 591. Col., Mont., N. Mex., Yellowstone.

**OCTOGOMPHUS** Selys.

*specularis* Selys, H. 1, p. 110; S. 8, p. 760. Cal.

**DROMOGOMPHUS** Selys.

*armatus* Selys, H. 1, p. 102; S. 10, p. 467. Ga.  
*spinosus* Selys, H. 1, p. 102. Ga., Ky., Texas, Ill., W. Va., Me.  
*spoliatus* Selys, H. 1, p. 103. Texas.

**GOMPHUS** Leach.

*abbreviatus* Hag., S. 10, p. 464. Me.  
*albistylus* Hag., S. 10, p. 460. Me.  
*adelphus* Selys, H. 1, p. 104; S. 10, p. 457. N. Y.  
*annicola* Walsh, W. 1, p. 396. Ill.  
*brevis* Hag., S. 10, p. 462. N. Y., Can., Me.  
*confraternus* Selys, S. 8, p. 744. Cal.  
*consanguis* Selys, S. 11, p. lxxvi. N. Car.  
*crassus* Hag., S. 10, p. 453. Ky.  
*dilatatus* Ramb., H. 1, p. 103. Ga., Fla., Mich.  
*exilis* Selys, H. 1, p. 108; S. 8, p. 778. Md., Mass., Me.  
*externus* Selys, H. 1, p. 104; S. 10, p. 452. N. Mex., Texas, Neb., Ill.  
*consobrinus* Walsh, W. 2, p. 242.

- fraternus* Say, H. 1, p. 104. N. Y., Ill., N. H., Texas (?).  
*furcifer* Hag., S. 10, p. 458. Mass., Mich.  
*graslinellus* Walsh, W. 1, p. 394. Ill.  
*intricatus* Selys, H. 1, p. 108. Texas, Mo.  
*lividus* Selys, H. 1, p. 106. S. Car., D. C., Mass.  
*militaris* Selys, H. 1, p. 107. Texas.  
*minutus* Ramb., H. 1, p. 108. Ga.  
*nævius* Hag., S. 10, p. 462. Pa., Me.  
*notatus* Ramb., H. 1, p. 110; S. 10, p. 466. Ill., Mich., Can.  
*fluvialis* Walsh, W. 1, p. 394.  
*olivaceus* Selys, S. 8, p. 749. Cal.  
*pallidus* Ramb., H. 1, p. 105. Ga., La.  
*pilipes* Selys, H. 1, p. 106.  
*parvulus* Selys, H. 1, p. 109; S. 10, p. 459. Nova Scotia, N. H., Me., Pa.  
*plagiatus* Selys, H. 1, p. 109; S. 10, p. 465. Md., S. Car.  
*quadricolor* Walsh, W. 2, p. 246. Ill., Mass., Mich.  
*scudderi* Selys, S. 8, p. 752. U. S. [No definite locality.]  
*sobrinus* Selys, S. 8, p. 745. Cal.  
*spicatus* Selys, H. 1, p. 107; S. 7, p. 183. Can., Mass., N. Y.  
*spiniceps* Walsh, W. 1, p. 389; S. 8, p. 750. Ill., Mass.  
*vastus* Walsh, W. 1, p. 391. Ill., N. Y., Mass., D. C., Md.  
*ventricosus* Walsh, W. 2, p. 249; S. 10, p. 453. Ill., Mich., Mass., Va.  
*villosipes* Selys, H. 1, p. 105. Mass., Mich.

#### **PROGOMPHUS** Selys.

- obscurus* Ramb., H. 1, 110; S. 10, 658. Ga., Texas, Oreg., Mass. (?)  
*borealis* Selys, S. 8, p. 764.

#### **GOMPHOIDES** Selys.

- stigmata* Say, H. 1, p. 111. Texas.

#### **HAGENIUS** Selys.

- brevistylus* Selys, H. 1, p. 114. N. Y., Mass., Wis., Can., Md., Kan., Tex., Me.

#### **TACHOPTERYX** Hag.

- hageni* Selys, S. 11, p. lxxviii. Nev.  
*thoreyi* Selys, H. 1, p. 117; S. 10, p. 696. Mass., N. Y., Md., Ky.

### **CORDULEGASTERIDÆ.**

#### **CORDULEGASTER** Leach.

- diastatops* Selys, S. 10, p. 685. D. C., N. H., Mass., Can., Me.  
*lateralis* Scudd., Scudd. 1, p. 211.  
*dorsalis* Selys, H. 1, p. 116; S. 8, p. 772. Oreg., Alaska.  
*erroneus* Hag., S. 10, p. 688. N. C., Ky.  
*fasciatus* Ramb., S. 10, p. 692. Ga.  
*maculatus* Selys, H. 1, p. 115; S. 10, p. 689. Mass., Conn., Md., Ga., Can., Me.  
*obliquus* Say, H. 1, p. 116; S. 10, p. 692. Ind., Ill., Mass., Me., Can.  
*sayi* Selys, H. 1, p. 115; S. 10, p. 686. N. H., Md., Mass., Me., Can., Ga.

**ÆSCHNIDÆ.****ANAX** Leach.

- junius* Drury, H. 1, p. 118; H. 31, p. 305. U. S., Can.  
*longipes* Hag., H. 1, p. 118; H. 31, p. 303. Mass., Md., Ga., Fla.  
*concolor* Brauer, H. 31, p. 304.  
*walsinghami* McLach., McL. 8, p. 127; H. 31, p. 306. Cal., Ariz., N. Mex.  
*validus* Hag. mss.

**GOMPHÆSCHNA** Hag.

- antelope* Hag., H. 17, p. 354. Md.  
*furcillata* Say, H. 1, p. 131; H. 17, p. 351. Mass., Mich., Ga.

**NEURÆSCHNA** Hag.

- vinosa* Say. Can., Me., N. Y., Mass., Pa., Md., D. C., Car., Ga., Ky.  
*quadriguttata* Burm., H. 1, p. 130.

**BASIÆSCHNA** Selys.

- janata* Say, H. 1, p. 125. Mass., N. H., N. J., Me.

**ÆSCHNA** Fab.

- constricta* Say, H. 1, p. 123. U. S., Can., Brit. Am.  
*contorta* Hag., H. 1, p. 126.  
*palmata* Hag., Stett. Z. xvii, p. 369.  
*arundinacinea* Selys, Ann. Soc. Ent. Belg. xvii, 36.  
*clepsydra* Say, H. 1, p. 122. Northeastern U. S.  
*propinqua* Scudd., ♀, Scudd. 1, p. 215.  
*crenata* Hag., Stett. Z. xvii, p. 369. N. H., Arctic America.  
*eremita* Scudd., Scudd. 1, p. 213.  
*heros* Fab., H. 1, p. 128. Eastern U. S. [Note 8.]  
*ingens* Ramb., H. 1, p. 128. Ga., Fla., La.  
*abbotti* Hag., H. 17, p. 350.  
*juncea* Linn., H. 1, p. 120. N. H., Boreal America.  
*hudsonica* Hag., H. 1, p. 123.  
*propinqua* Scudd., ♂ in part, Scudd. 1, p. 215.  
*multicolor* Hag., H. 1, p. 121. N. Mex., Mont., Yellowstone.  
*mutata* Hag., H. 1, p. 124. N. Am. [no definite locality.]  
*pentacantha* Ramb., H. 1, p. 129. Ill., La., Texas.  
*septentrionalis* Burm., H. 1, p. 120; H. 31, p. 354. N. H., British America,  
 Newfoundland.  
*sitchensis* Hag., H. 1, p. 119; H. 31, p. 353. Alaska, Brit. Am.  
*verticalis* Hag., H. 1, p. 122. Northern U. S.  
*clepsydra* Walsh, not Say.  
*propinqua* Scudd., ♂ in part, Scudd. 1, p. 215.  
*virens* Ramb., H. 1, p. 127. Ga. (?)  
*grandis* Linné, H. 1, p. 126. N. J. [locality probably wrong], European.

**CORDULIDÆ.****MACROMIA** Ramb.*Didymops.**Epophthalmia.*

- annulata* Hag., H. 1, p. 132; S. 4, p. 544. Texas, Ill.  
*flavipennis* Walsh, W. 1, p. 398.  
*georgiana* Selys, S. 6, p. 197. Ga.  
*illinoiensis* Walsh, W. 1, p. 397. N. H., Mass., Pa., Tenn., Ill.  
*magnifica* Selys, S. 5, p. 22. Cal.  
*pacifica* Hag., H. 1, p. 133; S. 4, p. 542. Texas, Cal.  
*tæniolata* Ramb., H. 1, p. 132; S. 4, p. 527. Pa., Md., Ga.  
*transversa* Say, H. 1, p. 135; S. 4, p. 548. Vt., Mass., N. Y., Pa., D. C., S. C., Ga., Ky., Mich.

**EPITHECA** Charp.*Somatochlora.*

- albicincta* Burm., H. 1, p. 138; S. 4, p. 303. N. H., Labrador, Alaska.  
*eremita* Scudd., Scudd. 1, p. 215.  
*cingulata* Selys, S. 4, p. 302; S. 6, p. 195. Labrador, Newfoundland, N. H.  
*elongata* Scudd., Scudd. 1, p. 218; S. 4, p. 292. N. H., Nova Scotia, Wis.  
*saturata* Hag. mss.  
*flosa* Hag., H. 1, p. 136; S. 4, p. 287. Md., Ga.  
*forcipata* Scudd., Scudd. 1, p. 216; S. 6, p. 194. N. H., Me., Nova Scotia, Br. A.  
*chalybea* Hag. mss.  
*franklini* Selys, S. 6, p. 195. Brit. Am.  
*septentrionalis* Selys (in part), S. 4, p. 298; S. 5, p. 20.  
*hudsonica* Selys, S. 4, p. 301. Brit. Am.  
*linearis* Hag., H. 1, p. 137; S. 6, p. 193. Ill., Mo., Pa., Ga.  
*procera* Selys, S. 4, p. 285.  
*nasalis* Selys, S. 5, p. 21. N. Am. [no definite locality.]  
*obsoleta* Say, H. 1, p. 136; S. 4, p. 279; H. 31, p. 369. Ind., Mass., Ill., La.  
*molesta* Walsh, W. 2, p. 254.  
*semicircularis* Selys, S. 4, p. 295; S. 6, p. 194. Col., Brit. Am., Utah.  
*septentrionalis* Selys, S. 4, p. 298; S. 6, p. 195. Labrador, Brit. Am.  
*richardsoni* Hag. mss.  
*tenebrosa* Say, H. 1, p. 137; S. 4, p. 289. Nova Scotia, Md., N. J., Ind. Ill.  
*walshii* Scudd., Scudd. 1, p. 217; S. 4, p. 293. N. H.  
*yamaskanensis* Prov., P. 1, 104; S. 6, p. 191; H. 31, p. 367. Can.

**CORDULIA** Leach.*Tetragoneura.*

- costalis* Selys, S. 4, p. 275; S. 5, p. 20. Ga.  
*cynosura* Say, S. 4, p. 270. Me., Mass., N. Y., Mich., Ohio, Ill., Pa., Ga., La., Fla.  
*lateralis* Hag., H. 1, p. 139.  
*basigutta* Selys, S. 4, p. 271.  
*lepida* Selys, S. 4, p. 264. Me., Mass., Conn., N. Y., N. J., Md.  
*libera* Hag., S. 4, p. 263. Can., Mich.  
*lintneri* Hag., S. 6, p. 187; H. 31, p. 371. N. Y., Saskatchewan.

- nannodiplax vacua* Hag., H. 8, p. 91; H. 31, p. 248.  
*selysi* Hag., S. 6, p. 189. Ga.  
*semiaqua* Burm., H. 1, p. 140; S. 4, p. 272. Nova Scotia, Mass., N. Y., D. C., S. C., Ga., Fla.  
*diffinis* Hag. mss.  
*complanata* Ramb., S. 4, p. 273.  
*shurtleffi* Scudd., Scudd. 1, p. 271; S. 4, p. 265. N. H., Nova Scotia, Can., Brit. Amer.  
*bifurcata* Hag. mss.  
*spinigera* Selys, S. 4, p. 269; S. 5, p. 20. Can., Ga., Mich., Vancouver.  
*spinosa* Hag., S. 6, p. 188. Ga.  
*uhleri* Selys, S. 4, p. 274. Me., Mass., N. J.

**LIBELLULIDÆ.****PANTALA** Hag.

- flavescens* Fab., H. 1, p. 142. Southern States.  
*hymenæa* Say, H. 1, p. 142. Ind., Ill., Texas.

**TRAMEA** Hag.

- abdominalis* Ramb., H. 1, p. 145. Mass., Fla.  
*insularis* Scudd., not Hag., ♀, Scudd. 1, p. 191.  
*carolina* Linn., H. 1, p. 143. Mass., N. Y., N. J., Southern States.  
*chinensis* De Geer, H. 1, p. 144. Carolina (?).  
*insularis* Hag., H. 1, p. 186. Fla.  
*lacerata* Hag., H. 1, p. 145. Ill., Texas, Md., Mich., N. Y.  
*onusta* Hag., H. 1, p. 144. Mo., Fla., Texas.

**CELITHEMIS** Hag.

- amanda* Hag., H. 1, p. 183. Ga., N. J.  
*balteata* Hag., H. 1, p. 140. Texas, Fla.  
*elisa* Hag., H. 1, p. 182. Mass., N. Y., Can., Mich., Ill., Ga., Me.  
*eponina* Drury, H. 1, p. 147. U. S. east of Rocky Mountains.  
*fasciata* Kirb., Kirb. 1, p. 326. Can., Ga., Fla.  
*ornata* Ramb., H. 1, p. 182. Pa., Ga., Fla., Me.

**PERITHEMIS** Hag.

- domitia* Drury, H. 1, p. 185. Eastern U. S.

**LIBELLULA** Linn.

*Plathemis.* [Note 4.]

- trimaculatus* De Geer, H. 1, p. 149. U. S. east of Rocky Mountains.  
*subornata* Hag., H. 1, p. 149. Cal., N. Mex., Texas, Kan., Ariz.  
*axillena* West., H. 1, p. 156. Ga., La., Fla., Texas. [Note 10.]  
*auripennis* Burm., H. 1, p. 155. Atlantic and Gulf States south of N. Y.  
*basalis* Say. N. Y., N. J., Pa., Md., D. C., Va., Can., Mich., Ill., Kan.  
*luctuosa* Burm., H. 1, p. 152.  
*composita* Hag., H. 12, p. 728. Yellowstone.  
*deplanata* Ramb., H. 1, p. 154. Pa., Ga., N. C.  
*exusta* Say. Me., Mass., Wis., Brit. Am., Can. Wash.  
*julia* Uhler, H. 1, p. 153.

- flavida* Ramb., H. 1, p. 156. Texas, Yellowstone, Mont.  
*forensis* Hag., H. 1, p. 154; H. 18, p. 585. Ariz., Cal., Brit. Am., Yellowstone, Mont.  
*incesta* Hag., H. 1, p. 155; H. 31, p. 384. N. H., Mass., Car., Texas, Can., Fla., Me. [Note 10.]  
*lydia* Drury, H. 1, p. 155. South Atlantic and Gulf States.  
*nodisticta* Hag., H. 1, p. 151; H. 18, p. 583. Yellowstone, Mont.  
*odiosa* Hag., H. 1, p. 152. Texas.  
*plumbea* Uhl., H. 1, p. 157. N. J., Md., Ga.  
*pulchella* Drury, H. 1, p. 153. U. S. east of Rocky Mountains and Utah.  
*quadrinaculata* Linn., H. 1, p. 150. Mass., Mich., Ill., Can., Wis., Idaho, Wy., Utah, Me.  
*quadrupla* Say, H. 1, p. 157. Mass., N. J., Md.  
*saturata* Uhler, H. 1, p. 152; H. 18, p. 586. Ariz., Yellowstone, Mont.  
*semifasciata* Burm., H. 1, p. 151. Mass., N. Y., N. J., Md., D. C., Car., Fla., Texas, Mich., Ill., Me.

**ORTHEMIS** Hagen.

- discolor* Burm., H. 1, p. 160. Fla., Texas.

**DYTHEMIS** Hagen.

- fugax* Hag., H. 1, p. 163. Texas.  
*mendax* Hag., H. 1, p. 164. Ariz., Texas.  
*velox* Hag., H. 1, p. 163. Texas.

**TRITHEMIS** Hagen.

- umbrata* Linn., H. 1, p. 158. Ga. (?)

**LEPTHEMIS** Hagen.

- gravida* Calvert, Cal. 1, p. 35. Texas, Fla.  
*hæmatogastra* Burm., H. 1, p. 161. Ga. (?)

**MESOTHEMIS** Hagen.

- collocata* Hag., H. 1, p. 171. Texas, Yellowstone, Cal., Ariz.  
*illota* Hag., H. 1, p. 172. Cal., Vancouver, Yellowstone.  
*longipennis* Burm., H. 1, p. 173. Eastern U. S., Texas, Mont., Cal.  
*simplicicollis* Say, H. 1, p. 170. Eastern U. S., Texas, Mont., Utah.  
*gundlachi* Scudd., Scudd. 1, p. 195.

**DIPLAX** Charp.

*Leucorrhinia.* [Note 11.]

- albifrons* Charp., H. 1, p. 177. Ga., Mo., Texas, Mass.  
*assimilis* Uhl., H. 1, p. 174. Ill., D. C., Mo., Md., Pa., Wis.  
*atripes* Hag., H. 18, p. 588. Yellowstone.  
*borealis* Hag., H. 32, p. 231. Brit. Am.  
*berenice* Drury, H. 1, p. 178. Mass., N. Y., N. J., Md., Va.  
*corrupta* Hag., H. 1, p. 171. Ill., Kan., Col., La., Texas, Mont., Cal.  
*costifera* Hag., H. 1, p. 175. Me., Mass., N. Y., N. Red River.  
*decisa* Hag., H. 18, p. 588. Dak., Col., Yellowstone.  
*frigida* Hag., H. 32, p. 231. Mass., Can., Dak., Brit. Am.  
*glacialis* Hag., H. 32, p. 234. Nova Scotia, Can., N. H., Mass., Nev.

- hudsonica* Selys, H. 1, p. 180; H. 32, p. 233. Nova Scotia, Br. Am., Me., Mass.  
*hageni* Calvert, Cal. 1, p. 36.  
*intacta* Hag., H. 1, p. 179; H. 32, p. 235. Northern U. S., Can.  
*madida* Hag., H. 1, p. 174; H. 31, p. 385. Dak., Mont., Yellowstone, Cal., Vancouver.  
*flavicosta* Hag., H. 31, p. 386.  
*minuscula* Ramb., H. 1, p. 183. Ga., Ky., Fla.  
*obtrusa* Hag., H. 8, p. 95. Mass., Ill., Can.  
*pallipes* Hag., H. 18, p. 589. Col., Texas.  
*proxima* Calvert, Cal. 1, p. 38; H., 32, p. 232. Nova Scotia, Me., Mass., N. H., Brit. Am., Wash.  
*rubicundula* Say, H. 1, p. 176; H. 31, p. 385. Eastern U. S., Can.  
*scotia* Donovan, H. 1, p. 179. Can., N. Red River, Yellowstone (?)  
*semicineta* Say, H. 1, p. 176. Me., Mass., N. H., N. Y., Pa., Md.  
*vicina* Hag., H. 1, p. 175. Me., Mass., N. Y., N. J., Pa., Md., D. C., Ill., Can.  
*imbuta* Say, H. 1, p. 185. Md. [Note 12.]

**NANOTHEMIS** Brauer.

- bella* Uhl., H. 1, p. 186. Me., Mass., N. Y., Ct., N. J., Md., Ga., Can  
*maculosa* Hag., H. 1, p. 187. Ga.

**SIALIDÆ.****SIALIS** Latr.

- infumata* Newm., H. 1, p. 188. U. S.  
*americana* Ramb., H. 1, p. 188. Ga., Pa.

**CHAULIODES** Latr.

- angusticollis* Hag., H. 1, p. 191. Ga., Va., Ill.  
*californicus* Walk., H. 1, p. 190. Cal.  
*lunatus* Hag. Eastern U. S.  
*serricornis* Hag., not Say, H. 1, p. 190.  
*pectinicornis* Linn., H. 1, p. 189. Atlantic States.  
*rastricornis* Ramb., H. 1, p. 189. Ga., S. C.  
*serricornis* Say. Pa., Ga., Md., Mass., N. Y.  
*maculatus* Ramb. and Hagen, H. 1, p. 191.  
*virginiensis* Westw., H. 1, p. 190. Va.  
*disjunctus* Walk., W. 1, p. 334. Vancouver's Island.

**CORYDALIS** Latr.

- cornuta* Linn., H. 1, p. 192. Eastern U. S.  
*cognata* Hag., H. 1, p. 193. N. Mex.

**RAPHIDIDÆ.****RAPHIDIA** Linn.

- adnixa* Hag., H. 1, p. 195; Alb. 1, p. 146. Cal., Oreg., Wash.  
*bicolor* Alb., Alb. 1, p. 152. Col.  
*assimilis* Alb., Alb. 1, p. 144. Vancouver Island.  
*media* Burm., H. 1, p. 195. N. Am. [no definite locality.]  
*oblita* Hag., H. 1, p. 195; Alb. 1, p. 149. Cal., Oreg., Wash., Col.

**INOCELLIA** Schn.

- hageni* Alb., Alb. 1, p. 171. Cal.  
*inflata* Hag., H. 1, p. 196; Alb. 1, p. 167. Cal., Wash., Ariz.  
*longicornis* Alb., Alb. 1, p. 169. Cal.

**MANTISPIDÆ.****MANTISPA** Ill.

- brunnea* Say, H. 1, p. 207. U. S.  
*burquei* Prov., P. 1, p. 247.  
*interrupta* Say, H. 1, p. 209. Pa., Va., Texas,  
*mœsta* Hag., H. 1, p. 210. Tenn.  
*viridis* Walk., H. 1, p. 209. Fla.

**SYMPHYSIS** Hagen.

- signata* Hag., H. 21, p. 208. Cal.

**CONIOPTERYGIDÆ.****ALEURONIA** Fitch.

- westwoodii* Fitch, H. 1, p. 196. U. S.

**CONIOPTERYX** Halid.

- vicina* Hag., H. 1, p. 197. D. C.

**CHRYSOPIDÆ.****MELEOMA** Fitch.

- signoretii* Fitch, H. 1, p. 200. Vt.

**NOTHOCHRYSA** McLach.

- californica*. [Note 13.]

**CHRYSOPA** Leach.Group *oculata*.

- oculata* Say, H. 1, p. 211. U. S.  
*albicornis* Fitch, H. 1, p. 212. Miss.  
*latipennis* Schn., H. 1, p. 214. Pa., N. Y., Can.  
*illepida* Fitch, H. 1, p. 212. N. Y., Ill. [Note 14.]  
*fulvibucca* Fitch, H. 1, p. 212. N. Y.  
*chi* Fitch, H. 1, p. 213. N. Y.  
*ypsilon* Fitch, H. 1, p. 213. N. Y., D. C.  
*mississippiensis* Fitch, H. 1, p. 213. Miss.  
*transmarina* Hag., H. 1, p. 213. Can.  
*chlorophana* Burm., H. 1, p. 212. N. Y., Mich.

Group *nigricornis*.

- nigricornis* Burm., H. 1, p. 214. Atlantic States.  
*pavida* Hag., H. 1, p. 216. S. C.  
*ampla* Walk., H. 1, p. 215. Ga.  
*cubana* Hag., H. 1, p. 215. Va.  
*lineaticornis* Fitch, H. 1, p. 215. N. Y.



Group *rufilabris*.]

- rufilabris* Burm., H. 1, p. 219. Eastern U. S.  
*quadripunctata* Burm., H. 1, 218. S. C., D. C., Pa., N. Y.  
*emuncta* Fitch, H. 1, p. 220. N. Y.  
*attenuata* Walk., H. 1, p. 220. Fla., Va.  
*interrupta* Schn., H. 1, p. 220. Pa., N. Y.  
*virginica* Fitch, H. 1, p. 219. Va.  
*sulphurea* Fitch, H. 1, p. 219. N. J.  
*repleta* Walk., H. 1, p. 220. Ga.

Group *plorabunda*.

- plorabunda* Fitch, H. 1, p. 221. N. Y., Ill.  
*illinoiensis* Shimer, Shim. 1, p. 208.  
*externa* Hag., H. 1, p. 221. D. C., Cal.  
*flava* Scop., H. 1, p. 222. Pa.  
*harrisii* Fitch, H. 1, p. 221. N. Y.  
*robertsonii* Fitch, H. 1, p. 221. Ind. Terr.  
*pseudographa* Fitch, H. 1, p. 222. Ill.

## Not placed.

- longicornis* Walk., H. 1, p. 210. Ga.  
*punctinervis* McLach., McL. 10, p. 24. Texas.  
*citri* Ashm., Ash. 2. Fla.

**HEMEROBIDÆ.****POLYSTOCHOTES** Burm.

- punctatus* Fab., H. 1, p. 206. U. S.  
*vittatus* Say, H. 1, p. 207. Pa., N. J.

**HEMEROBIUS** Linn.

- alternatus* Fitch, H. 1, p. 201. N. Y.  
*amiculus* Fitch, H. 1, p. 200. N. Y., Ill.  
*castaneæ* Fitch, H. 1, p. 202. Northern States.  
*citrinus* Hag., H. 1, p. 204. N. Am. [no definite locality.]  
*conjunctus* Fitch, H. 1, p. 203. N. Y.  
*longicollis* Walk., H. 1, p. 200. Ga.  
*longifrons* Walk., H. 1, p. 206. Can., N. Y.  
*occidentalis* Fitch, H. 1, p. 201. Ill., D. C.  
*perparvus* McLach., McL. 10, p. 22. Texas.  
*stigmaterus* Fitch, H. 1, p. 202. Northern States.  
*tutatrix* Fitch, H. 1, p. 202. N. Y., D. C., Cal.  
*pinidumus* Fitch, H. 4, p. 203. N. Y.  
*hyalinatus* Fitch, H. 1, p. 203. N. Y.  
*posticus* Walk., H. 1, p. 204. Ga.  
*simulans* Walk., H. 1, p. 204. Can.  
*marginatus* Walk., H. 1, p. 205. Nova Scotia.  
*humuli* Walk., H. 1, p. 205. Ga.  
*crispus* Walk., H. 1, p. 205. Nova Scotia.  
*obliteratus* Walk., H. 1, p. 205. Ga.

**PSECTRA** Hagen.

*diptera* Linn., H. 29, p. 21. Ill., Me., Mich.  
*delicatulus* Fitch, H. 1, p. 201.

**MICROMUS** Ramb.

*angulatus* Steph., H. 28, p. 280. N. H., Can.  
*angustus* Hag., H. 28, p. 287. Fla., N. C.  
 (?) *subanticus* Walk., H. 1, p. 203.  
*insipidus* Hag., H. 1, p. 199; H. 28, p. 285. Eastern U. S.  
*sobrius* Hag., H. 1, p. 199.  
*montanus* Hag., H. 28, p. 279. Mass., N. H.  
*variolosus* Hag., H. 28, p. 284. Col.

**SISYRA** Burm.

*vicaria* Walk., H. 1, p. 197. Ga., N. Y.

**DILAR** Ramb.

*americana* McLach., McL. 7, p. 55. Ky.

**CLIMACIA** McLach.

*areolaris* Hag., H. 1, p. 199; McL. 10, p. 21. Southern States.

**BEROTHA** Walk.

*Isosclepiteron* Costa.

*pennsylvanicum* Brauer, Brauer 1, p. 898. Pa.  
*flavicornis* Walk., H. 1, p. 193. Southern States.  
*hamatus* Walk., H. 1, p. 199. N. Am. [no definite locality.]

**MYRMELEONIDÆ.****MYRMELEONINÆ.****ACANTHACLISIS** Ramb.

*americana* Drury, H. 1, p. 223; H. 30, p. 134. N. Y., N. C., S. C., Ga., Fla.  
*texana* Hag., H. 30, p. 147. Texas.  
*congener* Hag., H. 1, p. 224; H. 30, p. 154. N. Mex., Oreg., Wash.

**DENDROLEON** Hagen.

(?) *gratus* Say, H. 1, p. 225. Ind., Mo., Pa., Miss., Fla.  
*obsoletus* Say, H. 1, p. 225; H. 30, p. 187. Eastern U. S.

**MARACANDA** McLach.

*conspersa* Ramb., H. 30, p. 212. Eastern U. S.  
*nebulosus* Oliv., H. 1, p. 228.  
*contaminatus* Burm., H. 1, p. 227.  
*signata* Hag., H. 30, p. 215. Mich.  
*henshawi* Hag., H. 30, p. 216. Oreg.

**BRACHYNEMURUS** Hagen.

- abdominalis* Say, H. 1, p. 226; H. 30, p. 57. U. S.  
*juvencus* Hag., H. 1, p. 234.  
*blandus* Hag., H. 1, p. 235; H. 30, p. 73. N. Mex., Wy., Idaho, Nev.  
*carrizonus* Hag., H. 30, p. 93. Texas.  
*longipalpis* Hag., H. 30, p. 95. Cal., Nev.  
*longicaudus* Burm., H. 1, p. 227; H. 30, p. 35. Ga., Fla.  
*nebulosus* Ramb., H. 1, p. 228; H. 30, p. 36. Ga., D. C., S. C.  
*salvus* Hag., H. 1, p. 227.  
*nigrilabris* Hag., H. 30, p. 72. N. Mex., Col., Wy., Utah, Dak.  
*peregrinus* Hag., H. 1, p. 234; H. 30, p. 59. Western States.  
*sackeni* Hag., H. 30, p. 94. Texas, Cal., Ariz.  
 (?) *inscriptus* Hag., H. 1, p. 230. N. Mex.  
 (?) *pumilis* Burm., H. 1, p. 230. S. C.

**MYRMELEON** Linn.

- immaculatus* De Geer, H. 1, p. 231; H. 30, p. 188. U. S.  
*mobilis* Hag., H. 30, p. 204. Ga., Ala.  
*immaculatus* Burm. and Hag. (in part)  
*rusticus* Hag., H. 1, p. 233; H. 30, p. 210. Texas, N. Mex.  
 (?) *ingeniosus* Hag., H. 1, p. 236. S. C., Fla.  
*exitialis* Walk., H. 1, p. 229. Cal.  
*ferox* Walk., H. 1, p. 229. Cal.  
*tectus* Walk., H. 1, p. 232. Fla.  
*crudelis* Walk., H. 1, p. 232. Fla.  
*diversus* Hag., H. 12, p. 729. Yellowstone.

**ASCALAPHINÆ.***Holophthalmi.***PTYNX** Lefeb.

- appendiculatus* Fab., McL. 6, p. 239. Ga.  
*juvenilis* McLach., McL. 6, p. 239. Texas.  
*furcifer* McLach., McL. 9, p. 509. Ariz.

*Schizophthalmi.***ULULA** Ramb.

- hyalina* Latr., H. 1, p. 238; McL. 6, p. 246. Southern States.  
*quadripunctata* Burm., H. 1, p. 238; McL. 6, p. 247. N. Y., Md., D. C.

**COLOBOPTERUS** Ramb.

- excisus* Hag., H. 30, p. 153. Fla., Ky., Ct., Mass.  
*Euptilon* is bogus.

**PANORPIDÆ.****BITTACUS** Latr.

- apicalis* Uhler, H. 1, p. 248. Ill., Va.  
*apterus* McLach., McL. 4, p. 100. Cal.  
*chlorostigma* McLach., McL. 7, p. 36. Cal.  
*occidentis* Walk., H. 1, p. 247. Pa.  
*pillcornis* Westw., H. 1, p. 246. N. Y., Can.

*punctiger* Westw., H. 1, p. 247. Ga.  
*stigmaterus* Say, H. 1, p. 247. Mo., Md., Ga., D. C.  
*strigosus* Hag., H. 1, p. 246. Ill., D. C., Mo., N. Y.

**PANORPA** Linn.

*americana* Swed., H. 1, p. 242. Ga., Ky.  
*confusa* Westw., H. 1, p. 244. Mass., N. Y.  
*debilis* Westw., H. 1, p. 243. Pa., N. Y., Ga.  
*lugubris* Swed., H. 1, p. 241. S. C., Fla., Ga.  
*maculosa* Hag., H. 1, p. 245. Pa., N. Y.  
*nebulosa* Westw., H. 1, p. 243. N. Y., D. C., Mass.  
*rufa* Gray, H. 1, p. 242. Ga.  
*rufescens* Ramb., H. 1, p. 241. Atlantic States.  
*subfurcata* Westw., H. 1, p. 244. Can.  
*venosa* Westw., H. 1, p. 242. Eastern U. S.

**PANORPODES** McLach.

*oregonensis* McLach., McL. 7, p. 33. Oreg.

**MEROPE** Newm.

*tuber* Newm., H. 1, p. 248. Pa., Va., D. C.

**BOREUS** Latr.

*brumalis* Fitch, H. 1, p. 240. N. Y., D. C.  
*nivoriundus* Fitch, H. 1, p. 240. N. Y.  
*californicus* Pack., Pack. 2, p. 408. Cal.

**PHRYGANIDÆ.**

**PHRYGANEA** Linn.

*cinerea* Walk., H. 1, p. 252; H. 14, p. 410. Brit. Am., Me.  
*improba* Hag., H. 14, p. 417. Saskatschawan, N. Y.  
*interrupta* Say, H. 1, p. 256; H. 14, p. 411. Mass., N. Y., N. J., Mo.  
*vestita* Walk., H. 1, p. 253; H. 14, p. 418. Mass., Ga.  
*commixta* Walk., H. 1, p. 253.

**AGRYPNIE** Curt.

*glacialis* Hag., H. 14, p. 426. Saskatschawan, Labrador.  
*straminea* Hag., H. 14, p. 425. Saskatschawan.  
*colorata* Hag., H. 14, p. 424. Saskatschawan.

**NEURONIA** Leach.

*angustipennis* Hag., H. 14 p. 400. Ill., Mich., Mass.  
*concatenata* Walk., H. 14, p. 385. Mass., Ga., Fla., Can.  
*irrorata* Hag., not Fab., H. 1, p. 249.  
*dossuaria* Say, H. 1, p. 255; H. 14, p. 383. Mass., N. H.  
*ocellifera* Walk., H. 1, p. 252; H. 14, p. 400. Mass., Ill., La.  
*ocelligera* Walk., H. 1, p. 250; H. 14, p. 389. Nova Scotia.  
*pardalis* Walk., H. 1, p. 250; H. 14, p. 394. Nova Scotia, N. H., Can., Labrador.  
*postica* Walk., H. 1, p. 251; H. 14, p. 398. Eastern U. S., Can.  
*Ptilostomis kovalevskii* Kol., var. B.  
*semifasciata* Say, H. 1, p. 250; H. 14, p. 396. Brit. Am., Eastern U. S.  
*Ptilostomis kovalevskii* Kol., var. A.  
*stygipes* Hag., H. 14, p. 388. Me., N. H., Mass.

**LIMNEPHILIDÆ.****COLPOTAULIUS** Kol.

*perpusillus* Walk., H. 1, p. 254. Can.

**LIMNEPHILUS** Leach.

*combinatus* Walk., H. 1, p. 255. Can., Brit. Am.

*rhombicus* Walk. (Hag.), not Fab., H. 1, p. 254.

*externus* Hag., H. 1, p. 257. North Red River.

*extractus* Walk., H. 1, p. 260. Can., North Red River.

*hyalinus* Hag., H. 1, p. 258.

*femoralis* Kirby, Walk., H. 1, p. 260. N. Am. [no definite locality.]

*gravidus* Hag., H. 1, p. 257. Cal.

*indivisus* Walk., H. 1, p. 260. Can., Nova Scotia.

*subguttatus* Walk., H. 1, p. 261.

*perjurus* Hag., H. 1, p. 258. Alaska.

(?) *radiatus* Say, H. 1, p. 256. Northwest Terr.

(?) *sericeus* Say, H. 1, p. 256. Northwest Terr.

*vastus* Hag., H. 1, p. 257. Alaska.

**GONIOTAULIUS** Kol.

*dispectus* Walk., H. 1, p. 259. Can., Nova Scotia.

*multifarius* Walk., H. 1, p. 259.

(?) *plaga* Walk., H. 1, p. 263.

*femoralis* Kirby (Kol.), Kolen., Trichopt. p. 31. Arctic America.

*nebulosus* Kirby, H. 1, p. 259. Brit. Am., Can.

*subpunctulatus* Zett., H. 1, p. 261.

*partitus* Walk., H. 1, p. 261. Can.

*trimaculatus* Hag., not Zett., H. 1, p. 261.

*pudicus* Hag., H. 1, p. 262. N. Y., D. C. [Note 15.]

*sitchensis* Kol., H. 1, p. 263. Alaska. [No description.]

*submonilifer* Walk., H. 1, p. 260. N. Am. [no definite locality.]

**GLYPHOTÆLIUS** Steph.

*hostilis* Hag., H. 14, p. 444. Brit. Am., N. H., Mich.

**GRAMMOTAULIUS** Kol.

*interrogationis* Zett., H. 1, p. 254; H. 14, p. 450. Greenland.

*præcox* Hag., H. 14, p. 451. Brit. Am.

**DESMOTAULIUS** Kol.

*planifrons* Kol., H. 1, p. 263. Greenland, Labrador.

**ANABOLIA** Steph.

*bimaculata* Walk., H. 1, p. 263. Can., North Red River, Ill.

*sordida* Hag., H. 1, p. 264.

*consocia* Walk., H. 1, p. 264. N. Am. [no definite locality.]

*modesta* Hag., H. 1, p. 265. Labrador.

**HALESUS** Steph.

- argus* Harris, Harr. 1, p. 333. Mass.  
*guttifer* Walk., H. 1, p. 266. Can., Ga., La.  
*hostis* Hag., H. 1, p. 266. North Red River, Ill.  
*indicans* Walk., H. 1, p. 258. Ga.  
*indistinctus* Walk., H. 1, p. 266. Newfoundland, La.  
 (?) *amicus* Hag., H. 1, p. 265.  
*maculipennis* Kol., H. 1, p. 267. N. Am. [no description, no definite locality.]  
*mutatus* Hag., H. 1, p. 267. Labrador.  
*scabripennis* Ramb., H. 1, p. 265. Ga.

**ENECYLA** Ramb.

- areolata* Walk., H. 1, p. 267. Can.

**STENOPHYLAX** Kol.

- divergens* Walk., H. 1, p. 255. N. Am., [no definite locality] Col.  
*gentilis* McLach., McL. 5, p. 108. N. H.  
*gilvipes* Hag., H. 18, p. 601. Brit. Columbia.  
*limbata* McLach., McL. 5, p. 108. Newfoundland.  
*punctatissimus* Walk., H. 1, p. 264. Nova Scotia.

**PLATYPHYLAX** McLach.

- atripes* Hag., H. 18, p. 600. Col.  
*designata* Walk., H. 1, p. 269. Brit. Am., Can., Nova Scotia, Col.  
*lepida* Hag., H. 1, p. 269. Pa.  
*subfasciata* Say, H. 1, p. 269. Pa., Northwest Terr.

**ECCLISOPTERYX** Kol.

- irrorata* Fab. Can.  
*L. intercisa* Walk., H. 1, p. 268.  
*præterita* Walk., H. 1, p. 268. Brit. Am.

**NEOPHYLAX** McLach.

- concinus* McLach., McL. 5, p. 111. N. Y.

**APATANIA** Kol.

- pallida* Hag., H. 1, p. 270. Can.  
*nigra* Walk., H. 1, p. 270. Can.  
 (?) *hirtipes* Curt., H. 1, p. 295. Arctic Am.

**CRYPTOTHRIX** McLach.

- difficilis* Walk., H. 1, p. 268. Nova Scotia, Can., Mass., N. H.  
*P. coagulata* (Say mss.), Prov.

**SERICOSTOMATIDÆ.****SERICOSTOMA** Latr.

- americana* Walk., H. 1, p. 270. Ga.  
*crassicorne* Walk., H. 1, p. 271. Ga.

**NOTIDOBIA** Steph.

- griseola* McLach., McL. 5, p. 112. Cal.  
*nigricula* McLach., McL. 5, p. 113. Cal.

**BRACHYCENTRUS** Curtis.

- fuliginosus* Walk., H. 1, p. 272. Can., D. C.  
*incanus* Hag., H. 1, p. 272.  
*lateralis* Say, H. 1, p. 274. Ky.  
*numerosum* Say, H. 1, p. 273. Ind.  
*signatus* Fab., H. 1, p. 250. N. Am. [no definite locality.]

**SILO** Curtis.

- californicus* Hag., H. 1, p. 272. Cal.  
*griseus* Hag., H. 1, p. 273. N. Y.

**MORMONIA** Steph.

- togata* Hag., H. 1, p. 273. Can., D. C.

**OLIGOPLECTRUM** McLach.

*Dasystema* Hag.

- rusticum* Hag., H. 10, p. 267. Saskatchewan.

**SPHINCTOGASTER** Prov.

- lutescens* Prov., P. 1, p. 262. Can.

**NOSOPUS** McLach.

- podager* McLach., McL. 5, p. 114. Cal.

**HELICOPSYCHE** Brems.

- borealis* Hag., H. 1, p. 271; H. 7, p. 252. N. Y., Can.

**HYDROPTILIDÆ.****PHRYXICOMA** Eaton.

- albicornis* Hag., H. 1, p. 275; E. 4, p. 138. Can.  
 (?) *tarsalis* Hag., H. 1, p. 275; E. 4, p. 148. Can.

**RHYACOPHILIDÆ.****RHYACOPHILA** Pict.

- fuscula* Walk., H. 1, p. 295. Can., N. Y.  
*torva* Hag., H. 1, p. 296. D. C., N. Y.  
*soror* (Hag.) Prov., P. 1, p. 142. Can.

**CHIMARRHA** Leach.

- aterrima* Hag., H. 1, p. 297. Can., N. Y., Pa., D. C., Ga.  
*socia* Hag., H. 1, p. 297. D. C.

**AGAPETUS** Curtis.

- celatus* McLach., McL. 5, p. 139. Cal.  
 (?) *tenebrosus* Walk., H. 1, p. 274. Can.

**BERÆA** Steph.

- maculata* Hag., H. 1, p. 296. Can.  
*obscura* Walk., H. 1, p. 297. Can.  
*viridiventris* Say, H. 1, p. 296. Ohio.

**LEPTOCERIDÆ.****MOLANNA** Curt.

- cinerea* Hag., H. 1, p. 276. Can.  
*inconspicua* Walk., H. 1, p. 275. Ga.  
*rufa* Hag., H. 1, p. 276. N. Y.

**LEPTOCERUS** Leach.

- albstictus* Hag., H. 1, p. 276. N. Am. [no definite locality.]  
*dilutus* Hag., H. 1, p. 277. Ill.  
*indecisus* Walk., H. 1, p. 279. Can.  
*mentiens* Walk., H. 1, p. 278. Can.  
*lugens* Hag., H. 1, p. 276.  
*submacula* Walk., H. 1, p. 278. Can.  
*transversus* Hag., H. 1, p. 279. D. C.  
*variegatus* Hag., H. 1, p. 278. Ill.

**SETODES** Ramb.

- albida* Walk., H. 1, p. 283. Can.  
*nivea* Hag., H. 1, p. 281.  
*exquisita* Walk., H. 1, p. 280. Ga., D. C., Can.  
*flaveolata* Hag., H. 1, p. 282. D. C., La.  
*ignita* Walk., H. 1, p. 281. Ga., D. C.  
*immobilis* Hag., H. 1, p. 283. Can.  
*incerta* Walk., H. 1, p. 278. Can., D. C.  
*micans* Hag., H. 1, p. 283.  
*injusta* Hag., H. 1, p. 283. Can., Ill.  
*pavida* Hag., H. 1, p. 282. D. C.  
*piffardii* McLach., McL. 1, p. 160. Can.  
*resurgens* Walk., H. 1, p. 282. Can., D. C.  
*cinerascens* Hag., H. 1, p. 282.  
*sagitta* Hag., H. 1, p. 284. Fla.  
*uwarowii* Kol. Ga., Pa., Fla., S. C., D. C., Ohio.  
*candida* Hag., H. 1, p. 280.

**MYSTACIDES** Latr.

- atra* Pact. Can.  
*sepulchralis* Walk., H. 1, p. 277.  
*nigra* Linn., H. 1, p. 277. D. C.

**ANISCENTROPUS** McLach.

- latifascia* Walk., H. 1, p. 279; McL. 2. N. Am. [no definite locality.]  
*G. elegans* Walk., H. 1, p. 279.  
*pyraloides* Walk., H. 1, p. 271; McL. 2. Ga., Pa.

**HETEROPECTRON** McLach. [Note 16.]

- borealis* Prov., P. 1, p. 263. Can.  
*californicum* McLach., McL. 5, p. 125. Cal.



**HYDROPSYCHIDÆ.****MACRONEMA** Pict.

- flava* Hag., H. 1, p. 285. Mo.  
*polygrammaticum* McLach., McL. 5, p. 129. Pa. (?)  
*transversa* Walk., H. 1, p. 289. Ga.  
*zebrata* Hag., H. 1, p. 285. Can., N. Y., Md., Va., D. C., W. Va.

**HYDROPSYCHE** Pict.

- alternans* Walk., H. 1, p. 288. Can., N. Y., D. C.  
*morosa* Hag., H. 1, p. 287.  
*indecisa* Walk., H. 1, p. 288.  
*chlorotica* Hag., H. 1, p. 290. Can., N. Y., Ill.  
*confusa* Walk., H. 1, p. 291. Can.  
*depravata* Hag., H. 1, p. 290. Ga.  
*dubitans* Walk., H. 1, p. 289. N. Am. [no definite locality.]  
*incommoda* Hag., H. 1, p. 290. Ga.  
*maculicornis* Walk., H. 1, p. 289. Can.  
*phalerata* Hag., H. 1, p. 287. Can., N. Y., D. C., Pa.  
*reciproca* Walk., H. 1, p. 288. N. Am. [no definite locality.]  
*dubia* Walk., H. 1, p. 288.  
*robusta* Walk., H. 1, p. 289. N. Am. [no definite locality.]  
*scalaris* Hag., H. 1, p. 286. Can., D. C.  
*sordida* Hag., H. 1, p. 290. Can., D. C.

**SMICRIDEA** McLach.

- fasciatella* McLach., McL. 5, p. 136. Texas.

**PHILOPOTAMUS** Leach.

- distinctus* Walk., H. 1, p. 291. N. Y.

**POLYCENTROPUS** Curt.

- cinereus* Hag., H. 1, p. 293. Can.  
*confusus* Hag., H. 1, p. 293. N. Y., D. C.  
*crassicornis* Walk., H. 1, p. 292. Ga.  
*crepuscularis* Walk., H. 1, p. 292. Can.  
*invarius* Walk., H. 1, p. 292. Nova Scotia.  
*lucidus* Hag., H. 1, p. 294. N. Y., Pa.  
*validus* Walk., H. 1, p. 292. U. S. [no definite locality.]  
*vestitus* Hag., H. 1, p. 293. D. C.

**PSYCHOMYIA** Latr.

- flavida* Hag., H. 1, p. 294. Can., D. C.

**TINODES** Steph.

- consueta* McLach., McL. 5, p. 138. Cal.  
*livida* Hag., H. 1, p. 295. Can.  
 (?) *parva* Walk., H. 1, p. 294. Can.

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NOTES.

Note 1.—*Pseudoperla*; Mr. MacGillivray proposes this genus for those species of *Perla* with but two ocelli.

Note 2.—*Echmepteryx agilis* is, I think, identical with *A. hageni* Pack. I use the genus *Amphientomum*, as Hagen saw Packard's specimen and said they belonged to this genus; therefore, I consider *Echmepteryx* unnecessary.

Note 3.—*Psocus canadensis* Prov. is probably *P. purus* Walsh.

Note 4.—Eaton has given new names to several of our Ephemerids without, I think, just cause; they are as follows: *Hexagenia variabilis*, *Ephemerella varia*, *Heptagenia hageni*, *H. jejuna*, *Leptophlebia memorialis*, *Ephemerella walkeri*, *Bætis hageni* and *Callibætis hageni*.

Note 5.—I have united several of Eaton's genera to *Siphylurus* and *Heptagenia*. *Ameletus* and *Chironetes* equal *Siphylurus*; *Rithogenia*, *Ecdyrus*, *Iron*, *Cinygma*, all equal *Heptagenia*.

Note 6.—*Lestes stulta* is perhaps a race of *L. forcipata*; and *L. vidua* of *L. congener*.

Note 7.—De Selys considers *Enallagma annexa*, *boreale* and *robusta* races of the European *E. cyathigerum*.

Note 8.—De Selys puts *Æ. heros* in a separate genus, *Epiæschna*, as the eyes touch only at one point.

Note 9.—I unite *Plathemis* to *Libellula*. Kirby has recently divided *Libellula* into various genera.

Note 10.—*Libellula incesta* and *axillena* are probably varieties of *L. lydia*.

Note 11.—I have united *Leucorrhina* to *Diplax*. In some specimens of *D. intacta* the sectors of the arculus are not stalked; usually, however, they are pedicellate.

Note 12.—*Diplax imbuta* may be a discolored specimen of *Mesothemis simplicollis*. I have seen a specimen of the latter species with a red thorax and abdomen with the last few segments marked with black.

Note 13.—

**NOTHOCHRYSA** McLachlan.

Genus related to *Chrysopa*; differs in having the third cubital cell equally divided.

**N. californica** n. sp.—Length of body 9 mm.; length of wings 12 mm. Dark, antennæ and palpi black. Head reddish yellow, antennal sockets surrounded with black, three black streaks above connected with the black of antennal sockets, a few narrow blackish lines below antennæ; prothorax black, with a median light stripe widening at each end, the extreme margin light, rest of thorax and abdomen black, the posterior margin of the segments on sides narrowly yellowish. Legs testaceous, middle and hind femora darker, tips of tibiæ and joints of tarsi black. Wings hyaline, veins mostly black, costa and base of radius on fore wings, costa and almost whole of radius on hind wings yellowish, pterostigma brownish; tips of wings rounded; prothorax widest behind, gradually narrowed in front. Abdomen short; antennæ shorter than wings.

*Locality*.—California.

Note 14.—I consider *Chrysopa illepidata*, *fulvibuca*, *chi*, *ypsilon* and *mississippiensis* as all equal to *C. oculata*.

Note 15.—*Limnephilus pudicus* is probably the same as *L. submonilifer* Walk.

Note 16.—*Heteroplectron* is placed in the Leptoceridæ by McLachlan. It will not go to that family in the key. The wings are broad, and the last joint of the palpi is short; if it belongs to the Leptoceridæ, it is certainly a very aberrant member.

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ABBREVIATIONS.

A.—Aaron.  
Alb.—Albarda.  
Ash.—Ashmead.  
B.—Buckley.  
Cal.—Calvert.  
E.—Eaton.  
H.—Hagen.  
Harr.—Harris.  
K.—Kolbe.

Kirb.—Kirby.  
McL.—McLachlan.  
P.—Provancher.  
Pack.—Packard.  
S.—De Selys.  
Scudd.—Scudder.  
Shim.—Shimer.  
W.—Walsh.  
Walk.—Walker.

## ERRATA.

Page 254, lines 5 and 6 from top, for claws *read* clavus.

“ 254, lines 24 and 25 from top, change to read as follows:

*ff.* Anterior margin of prothorax projecting nearly in a right angle; prothorax above lateral angles carinate; ocelli near eyes and base of head.

*j.* Prothorax in front produced in a porrect horn, bicarinate above, projecting far beyond head; posterior process broad.

**Nessorhinus** A. et S.

*jj.* Prothorax in front destitute of a porrect horn; posterior process slender, base narrowed.....**Goniolomus** Stal.

Page 255, line 3 from top, insert process *after* posterior.

“ 255, lines 13 and 16 from bottom, for touching *read* covering.

“ 259, lines 11-15 from top, change to read as follows:

*bb.* Prothorax furnished with an anterior process, anterior process with carinæ on each side, at least in anterior part.

Page 259, line 21 from top, for **Euchophyllum** *read* **Euchophyllum**.