

**NEW GENERA AND SPECIES  
OF NEARCTIC NEUROPTEROID INSECTS.**

BY NATHAN BANKS.

The following pages contain generic synopses of two families of Neuropteroïd insects and descriptions of various new genera and species. Several species belong to genera not previously reported from our country, but well known in Europe. Although in some families of Trichoptera there are a considerable number of species common to this country and Europe, our Neuropteroïd insects, as a whole, are rather sharply separated from the European fauna. In some large families like the Chrysopidæ and Myrmeleonidæ, there are no species common to the two continents.

**PSOCIDÆ.**

***Psocus oregonus* n. sp.**

Head yellowish brown; antennæ brown, slightly hairy; thorax black, a pale line each side of the median lobe uniting behind; legs brownish yellow, darker at tips of femora and tibiæ; wings glassy hyaline, with a faint tinge of amber, veins brown, that closing the cell white, cell about twice as broad at base as at tip, sometimes a few brown clouds near middle of wing; the pterostigma margined with heavy veins and prominently brown; hind wings hyaline, veins brownish.

Length 3.5 mm.

Ashland and Divide, Oregon; Temino, Washington, September (A. P. Morse).

***Psocus virginianus* n. sp.**

Black, wings uniform black, veins black, interrupted with white dots and around the margin interruptedly white; hind tibia testaceous, black at tip, basal joint of all tarsi pale yellowish; hind wings blackish hyaline; venation on usual plan, cell four sided, as broad at tip as at base; antennæ slender, not hairy.

Length 3.5 mm.

Falls Church, Virginia; August, September; living in crevices of old rails, posts, etc. Easily known by uniform black color and dotted veins.

***Psocus barretti* n. sp.**

Head yellowish, nasus lineate with black, legs yellowish brown, paler below, darker on outside and at tips of femora and bases of tibiæ, tarsi dark; antennæ nearly black, with short hairs; thorax brown, blackish in front, a white line on each side of the median lobe, uniting behind; wings hyaline, brown clouds along apical margin, and from its end a band obliquely across to the pterostigma

formed by a cloud in each cell, two clouds on anal margin near base, a black dot at base of the pterostigma, basal veins white, around pterostigma white, vein closing cell and base of the radial fork also white, otherwise the veins are black; hind wings unmarked, veins black; cell four sided, as wide at apex as at base.

Length 7 mm.

Districo Federal, Mexico (Barrett).

### PERLIDÆ.

It has long been recognized that the Perlidæ could be divided into two groups by the presence or absence of caudal setæ. This, I consider, a character of importance, yet hardly sufficient for subfamily distinction. As of equal value, I would rank the position of the anterior coxæ. In an attempt to use the ventral structure for the discrimination of genera, I discovered that the genus *Pteronarcys* differs remarkably from all our other Perlidæ in that the anterior coxæ are approximate and directed downward, while in the other forms these coxæ are well separated and directed outward. This character, in connection with the other peculiarities of the genus, warrant the erection of a tribe for it. The genus *Capnia* has long been recognized as a very distinct one. The most important character which distinguishes it (and allied genera) from *Perla* has not, I think, ever been mentioned; it is in the fact that the radial sector is not furcate beyond the anastomosis. Despite the fact that in many respects the venation of the Perlidæ is often variable, there are some points which appear fairly constant. The forking of the radial sector, and a point in regard to *Perla* (as restricted) hold true for all the specimens examined. These groups of Perlidæ may be considered as tribes. They can be separated in tabular form as below:

- |  |               |
|--|---------------|
| 1. Caudal setæ absent.....   | Nemourini.    |
| Caudal setæ present.....   | 2.            |
| 2. Radial sector not furcate beyond anastomosis, veins rather heavy, small black species .....         | Capnini.      |
| Radial sector forked beyond anastomosis .....  | 3.            |
| 3. Anterior coxæ directed downward and approximate; venation of wings often irregular.....             | Pteronarcini. |
| Anterior coxæ directed outward and well separated; venation more regular, with fewer cross-veins ..... | Perlini.      |

Our Pteronarcini include two genera, *Pteronarcys* and a new genus, *Pteronarcella*, for the two small species of *Pteronarcys* (*badia* and *regularis*) from the West. The latter genus is related to *Dicyopterx* of the Perlini.

1. In the fore wing the space between basal part of radial sector and median vein is free..... **Pteronarcella.**  
This space shows complete or incomplete cross-veins and cells which indicate two rows..... **Pteronareys.**

The Perlini is the most extensive tribe of the family, both in genera and species. At present I separate in our fauna eight genera. Several others will doubtless be erected as our knowledge of these forms progresses.

1. Apical space of fore wings with several transverse veinlets..... 2.  
Apical space of fore wings free or rarely with a few veinlets..... 3.
2. Space between radius and radial sector with transversals. **Dictyopteryx.**  
Space between radius and radial sector free..... **Aeroneuria.**
3. No folded anal space to hind wings, small pale species..... **Isopteryx.**  
Anal space present..... 4.
4. But two ocelli ..... **Pseudoperla.**  
Three ocelli ..... 5.
5. Radial sector with a fork at or even before the anastomosis, normally connected in some way with the cross-vein closing the cell; larger species, not greenish..... **Perla.**  
Radial sector with the first fork plainly beyond the anastomosis, not connected with the cross-vein closing the cell..... 6.
6. Radial sector four forked; never greenish species, a pale median stripe on prothorax..... **Isogenus.**  
Radial sector less than four forked, rarely more than two; smaller species.. 7.
7. Radial sector only once forked, if two, then greenish species, beyond end of subcosta usually but one transversal..... **Chloroperla.**  
Radial sector usually at least two forked, if but once, then two transversals beyond end of subcosta in costal area and not greenish species.  
**Perlinaella.**

The Capnini embraces three genera in our fauna. In Europe there is another genus—*Capnopsis*—which lacks the anal region to hind wings (present in all our forms). The South American *Gripopteryx* will probably fall in this tribe.

1. Apical submarginal space with transverse veinlets..... **Capnura.**  
Apical submarginal space without transverse veinlets ..... 2.
2. Space beyond discal cell as long as discal cell..... **Arsapnia.**  
Space beyond discal cell shorter than discal cell..... **Capnia.**

Our Nemourini are grouped in three well-defined genera. This tribe shows much affinity to the Capnini, but lacks the distinctive character of the venation in many forms. The genitalia are often very complex.

1. Second joint of tarsus about as long as first..... **Tæniopteryx.**  
Second joint of tarsus much shorter than the first..... 2.

2. Veins of pterostigma forming an X, wings not involute..... **Nemoura.**  
 Veins of pterostigma not forming an X, wings more or less involute; slender species ..... **Leuctra.**

**PTERONARCELLA** n. gen.

Similar to *Pteronarcys*, but much smaller and with rather narrower fore wings, which are furnished with fewer and more regular cross-veins; the space between the basal part of the radial sector and the median vein is free; the radial sector but two forked (three or more in *Pteronarcys*); and near the margin the space between the median and cubitus shows normally but one row of cells (in *Pteronarcys* there are two rows).

Type, *P. regularis* Hagen.

**PERLINELLA** n. gen.

Related to *Perla*. Two setæ; anal space of hind wings present; three ocelli; anterior coxae well separated; radial sector one to three forked, the first beyond the anastomosis; beyond end of subcosta several cross veins, no cross-veins in subapical area; not greenish species; size rather small.

Type, *P. trivittata* Banks.

**Aeroneuria pacifica** n. sp.

Head yellowish, with a blackish spot between the ocelli and each side extending obliquely forward toward the bases of antennæ, clypeus black, thorax dark brown, abdomen brown, more yellowish beneath, setæ testaceous, wings uniformly tinted with brown (darker than in *A. abnormis*), legs brown, yellowish at the knees. The prothorax is plainly narrowed behind, rather suddenly from the middle, rugose above, with a broad shallow furrow each side of the median suture (these furrows are broader than in the other species known to me, *abnormis*, *arida* and *ruralis*). The radial sector arises farther out than in *A. abnormis*, and is furcate somewhat beyond the anastomosis, there are no cross-veins in the posterior apical part of the wings. The ventral plate of the female is rounded behind, almost angular in the middle, on each side is a transverse impression, and on the basal half is a median longitudinal ridge, on the apex is an almost square shining space, transversely striate.

Length with wings 41 mm.

Olympia, Washington [Trevor Kincaid].

**Perla sabulosa** n. sp.

Head pale yellowish, a dark spot upon ocelli, antennæ rather pale brown, prothorax dull yellowish, abdomen pale brownish, yellowish beneath, dark on the tip, setæ light brown, wings hyaline, scarcely smoky, legs pale testaceous, bases of the tibiæ darker as also the tarsi. Prothorax hardly as broad as usual, slightly narrower behind, hind angles rounded, above rugose; wings reach beyond the setæ,

four or five subcostal cross-veins before origin of the radial sector, the latter forked near anastomosis and twice beyond. The eighth ventral segment of the female is scarcely produced, but distinctly acutely emarginate in the middle, the ninth is darker colored, with a median ridge from near the middle of which, on each side, a ridge curves outward and to the hind margin, inclosing a semicircular space; on each side of this segment is a large prominent pale spot; the tenth segment has an impressed spot each side at base.

Length with wings 32 mm.

**Yakima, Washington (C. V. Piper).** The pale spot on each side of the ventral surface of the penultimate segment separates this species from any others in our fauna.

**Perla americana n. sp.**

Head broader than prothorax, bright yellow, with a dull black trilobed spot covering the ocelli, and some black in front, basal joint of antennæ black above, second entirely yellow, rest yellowish below at base, brownish elsewhere. Prothorax once and one-half broader than long, broadest in front, sides straight, angles acute, a median smooth space, each side rugulose, entirely black; legs yellow, above with black stripe and below on the femora. Meso- and metathorax black. Abdomen dull yellowish above: venter more clear, with a few black-marks near tip; setæ entirely black; mentum and sternum black, coxæ clear yellow. Roots of the wings and costal margins yellowish, rest nearly hyaline, veins black, the radial sector normally forked but once beyond the anastomosis and once at anastomosis. Ventral lobe of female produced in middle, narrow and rounded at tip.

Length ♀ 25 mm.

Falls Church, Va., June; Michigan, June.

Differs from *P. tristis* by larger size, pale costa of wings, more produced and narrower ventral lobe of the female.

**Dictyopteryx irregularis n. sp.**

Head pale reddish yellow, with a blackish stripe each side, passing through lateral ocelli, a black spot connects lateral ocelli to the median one and passes forward each side of clypeus. Antennæ yellowish brown. Prothorax yellow-brown, the elevations blackish. Legs pale, black on femora just before tip and on bases of tibiae. Abdomen brown; setæ brownish; wings smoky. Head hardly as broad as prothorax, latter rather longer than in *D. signata*, sides straight, angles acute, somewhat rugose on the sides, smooth in middle. Wings with many cross-veins, very irregular, a few project from radial sector into the cell, and sometimes connect to radius, none, however, in the posterior apical space, very few in the basal costal space, sometimes free till near middle, radial sector arising well toward base; setæ reach beyond end of wings, joints slender; ventral plate of female longer than broad, rounded at tip, and narrowly but deeply emarginate.

Length with wings 30 mm.

Mt. Ranier, Washington (C. V. Piper).

Readily separated from *D. signata* by larger size, markings of head and thorax, irregular venation and shape of ventral plate of the female.

***Chloroperla minuta* n. sp.**

Black, bases of antennæ yellowish, especially below, a small pale spot on middle of hind margin of the head, an indistinct pale median stripe on prothorax, hind tibiæ brownish yellow; setæ yellowish, of twelve to fourteen joints; wings subfumose, pale yellowish along the costal area, veins black, not heavy, a fork near apical part of radial sector. Disk of prothorax finely rugulose each side.

Length 5 mm.

Columbus and Medina, Ohio, May and June (J. S. Hine).

This, at first sight, looks like a *Capnia*, but the forked radial sector, the finer veins, the shorter hind tarsi and the pale spots on the head, prothorax and bases of antennæ are characters foreign to *Capnia*. This is the smallest species of the genus *Chloroperla*, but agrees with the other species in all essential characters.

***Taeniopteryx pacifica* n. sp.**

Head dull black; antennæ brown; prothorax dull black, anterior margin, and usually the lateral margins narrowly reddish, base of mesothorax reddish, rest of body black; legs yellow-brown, knees rather darker. Wings dull hyaline, without marks, or an indistinct cloud near the middle, hind pair hyaline, veins brown. Prothorax rather broader than long, a transverse sulcus in front, on the disk are scattered small flat tubercles or scars; second joint of tarsi as long as first, tips of tibiæ with a pair of minute spines; ventral plate of the female is nearly semicircular. Wings long, slender, subcostal with several cross-veins to margin near tip, and a few near base, radial sector with but one fork beyond the anastomosis, the vein from the discal cell arises near the radial sector, pterostigmal region long, with but one cross-vein.

Length to tip of wings 12 mm.

Pullman, Washington, April (C. V. Piper, R. W. Doane).

***Taeniopteryx occidentalis* n. sp.**

Head dull black, antennæ dark brown; prothorax dull black, with anterior margin narrowly reddish, rest of body black; legs brown, darker on the femora; wings hyaline, with dark irregular narrow bands, one at apex, one slightly before it, one from the pterostigma, and a broader one toward base, also a basal spot; veins brown, hind wings unmarked. Prothorax rather longer than broad, equally broad in front and behind, near the front with a distinct transverse sulcus, on the disk without scars or sculpture; second joint of tarsus nearly as long as first; two small spines at tips of all tibiæ; female ventral plate large, as long as broad, narrow and rounded at tip. Wings hardly as long as usual, radial sector two-branched beyond the anastomosis, subcosta with three or four short cross-veins to the margin near tip of wing, pterostigma with two stout cross-veins.

Length to tip of wing 13 mm.

Mt. Ranier, Washington (C. V. Piper).

***Nemoura stigmata* n. sp.**

Head black, antennæ yellowish brown; legs yellowish, black on apex of femur and base of tibia; prothorax yellow-brown; abdomen black, genitalia yellowish

brown; wings pale, veins brown, above and beyond the oblique vein, which forms the X, is a brown spot, a similar spot in the hind wings, the apex of wing in the vicinity of radius is clouded with brown. Prothorax once and one-half broader than long, broadest behind, a median furrow and a ridge each side, scarcely rugulose on sides, margin straight; a small spine at apex of tibia; wings elongate, the radial sector arises quite close to the base, not forked beyond anastomosis, the subcosta running into the oblique cross-vein, the oblique vein above radius, which forms the X, is situate some distance beyond the basal cross-vein. Male with a spine below before tip, genitalia extremely complex and very prominent.

Length 15 mm.

Winnipeg, British America, June (Received from Dr. J. B. Smith).

#### CAPNURA n. gen.

With setæ; anal space to hind wings present; veins not very heavy; space beyond discal cell long; discal cell giving off two sectors; second tarsal joint short; anterior coxae well separated. The space between the radius and radial sector beyond the anastomosis is traversed by two or three irregular cross-veins; no such arrangement exists in any of the allied genera.

##### **Capnura venosa** n. sp.

Black; wings infuscate, veins black; tibia slightly paler than the rest of leg; vertex with a small median depression above the ocelli; antennæ about one-half the length of the body, basal joint rather large but short; wings slender, fully twice as long as the abdomen, median space with but one transverse veinlet; setæ with about fifteen joints.

Length 9-10 mm.

Pullman, Washington, April (R. W. Doane).

#### EPHEMERIDÆ.

The classification of the may-flies has long been extremely difficult, and there is no prospect that it will ever be very easy. The groups of *Cænis* and *Bætis* are undoubtedly very distinct; the former is probably related to *Polymitareys*. This latter genus, by the number of veins between veins 8 and 9,\* differs greatly from all others; it appears to be one of the most primitive genera. The genus *Bætisca* is peculiar among all may-flies by the course of veins 9 and 9<sup>1</sup>, therefore, I think, merits to stand alone. *Blasturus* falls as a synonym of *Leptophlebia*, as the slight difference between the

\* I use 8 for the anal, and 9 for the 1st axillary, 9<sup>1</sup> for second axillary, and 6 for the præbranchial, exactly as given by Eaton.

length of the median seta is not of generic importance. *Heptagenia* agrees with *Leptophlebia* in having the veins between 8 and 9 intercalary, therefore, I have grouped the genera together. The tabulated differences appear considerable; but the hind tarsus of *Leptophlebia* nearly always shows traces of a basal joint, the number of setæ is at most of generic value; the difference in position of the eyes holds only for the male. Therefore, I believe that these two genera are more closely related to each other than either is to any other genus in our fauna. The remaining genera, the *Ephemerella* and *Siphlurus* groups, offer but few important venational distinctions; a combination of certain minor characters serve to distinguish the two groups.

*Ephemerella* I place with *Siphlurus*, as in the latter some species have some costal cross-veins indistinct. I consider these groups as of tribal value and tabulate them as below:

1. Hind wings very small or absent, when present over twice as long as broad, with only two or three longitudinal veins, fore wings broad at base, vein 6 simple or the wing ciliated (imago), small species ..... 6.  
Hind wings always present, if small, about as broad as long, many-veined, fore wings narrower at base, broadening beyond, vein 6 always forked, wing never ciliated (imago) ..... 2.
2. Veins 9 and 9<sup>1</sup> parallel to anal margin and ending in outer margin, mesonotum very large, eyes of ♂ contiguous, two setæ ..... Bætiscini.  
Veins 9 and 9<sup>1</sup> ending in anal margin, not parallel to it, mesonotum not so large ..... 3.
3. Between 8 and 9 four long longitudinal veins subparallel to 8, furnished with many cross-veins, wings white, eyes of ♂ separate, ♂ two setæ, ♀ three setæ, usually no cross-vein basad of the intercalary between forks of 6 ..... Polymitarcini.  
Between 8 and 9 at most only two longitudinal veins, not very long, nor subparallel to 8, and with few, if any, cross-veins, wings not white ..... 4.
4. Between 8 and 9 the veins mostly intercalary, no series of cross-veins from 9<sup>1</sup> to margin, 9 is usually connected to branches of 8 (except in very small species) ..... Leptophlebini.  
Between 8 and 9 the veins are mostly branches of 8; 9 is usually not connected to branches of 8 ..... 5.
5. No cross-vein basad of the intercalary between forks of 6, 9 not connected to branches of 8, no series of cross-veins from 9<sup>1</sup> to the margin, eyes of ♂ contiguous, basal costal cross-veins often few, indistinct or incomplete ..... Siphlurini.  
Often a cross-vein basad of the intercalary between forks of 6; a series of veinlets from 9<sup>1</sup> to the margin, when not, then 9 connected to branches of 8; many basal costal cross-veins, all distinct, eyes of ♂ separate ..... Ephemerini.

6. Vein 6 simple, some apical short intercalary veins, margin not ciliated, eyes of ♂ turbinate.....**Bætini.**  
 Vein 6 forked, no apical short intercalary veins, margin ciliated, eyes of male not turbinate, widely separate, but two wings.....**Cænini.**

The Bætiscini includes only one genus, *Bætisca*. The genus is remarkable on several accounts, which justify the tribe for it. It is, I think, most nearly allied to *Heptagenia*.

The Leptophebini includes two genera in our fauna, which are separated as follows:

- Hind wings more or less angulate on costa near base; costal cross-veins usually not very irregular at outer costal curve; two setæ; eyes of ♂ separate; hind tarsi 5-jointed.....**Heptagenia.**  
 Hind wings not angulate on costa near base; costal cross-veins at outer costal curve more numerous, curved and irregular; setæ three; eyes of ♂ contiguous, hind tarsi 4-jointed.....**Leptophlebia.**

The Siphlurini also embraces two genera in our fauna; possibly *Siphlurus* can be divided on good characters, but I do not think those previously used are of generic value.

Basal costal cross-veins none or extremely indistinct; three setæ.

#### **Ephemerella.**

Basal costal cross-veins distinct, at least some of them; but two setæ.

#### **Siphlurus.**

The Ephemerini are represented by three genera, which can be separated as follows:

1. A series of basal cross-veins from 9<sup>1</sup> to anal margin, vein 9 rarely connected to branches of 8.....2.  
 No series of basal cross-veins from 9<sup>1</sup> to margin, at most two or three, vein 9 usually connected to branches of 8; three setæ, but the median one in ♂ is very rudimentary.....**Pentagenia.**  
 2. Three subequal setæ; wings often maculate.....**Ephemera.**  
 But two setæ, the median very rudimentary, wings not maculate.

#### **Hexagenia.**

The Polymitarcini includes only the genus *Polymitarcys* in our country. The European *Jolia* probably belongs to the tribe.

The Cænini includes in our country only *Cænis*, other genera are known in Asia.

The Bætini embraces four genera, separable as follows:

- 1 With but two wings.....**Clœon.**  
 With four wings.....2.  
 2. No basal costal cross-veins.....3.  
 Basal costal cross-veins distinct.....**Callibaetis.**  
 3. Short apical intercalary veins in pairs.....**Bætis.**  
 Short apical intercalary veins single.....**Centroptilum.**

***Leptophlebia basalis* n. sp.**

Dark brown; abdomen dark red-brown; legs pale, with a brown spot on middle and at tips of femora; setæ pale, annulate with brown; wings hyaline, roots dark brown, sometimes infuscate with reddish for a short distance, and also on basal half of hind wing; veinlets in costal area to bulla are weak and indistinct, but few cross-veinlets in middle of wing, no short intercalaries along the apical margin; hind wing small, but about as broad as long, costal margin swollen on middle, but not angulate; male has anterior femora brown.

Length 4 mm.; expanse 11 mm.

Sherbrooke, Canada, July; Montgomery County, Pennsylvania, September.

Readily known by the brown roots of the wings.

**CALLIBÆTIS.**

The females of our species of this genus can be separated by the following table:

1. Hind portion of fore wing destitute of cross-veins, but one posterior row of them, only about 15 to 25 cross-veins in wing beyond the vitta.....2.  
Hind portion of fore-wing with cross-veins, at least two posterior rows of them, about 35 to 50 cross-veins in wing beyond vitta.....6.
2. Wing with faint clouds at ends of veins, the vitta has several projections backward, markings dark brown.....**undatus**.  
No markings except the vitta.....3.
3. Basal costal space hyaline, middle cross-veins brown.....4.  
Basal costal space included in the vitta.....5.
4. Costa marked with dark spots; legs pale; hind edge of vitta with very small if any indentations.....**montanus**.  
Costa pale; femora plainly dotted with brown; hind edge of vitta with several distinct indentations .....**floridanus**.
5. Middle cross-veins white; vitta widely indented behind; spots along margin large; vitta dark brown; femora plainly marked with brown.  
**californicus**.  
Middle cross-veins brown; vitta narrowly indented behind; spots along margin smaller; femora barely, if any, marked with brown..**fluetans**.
6. Wing with several brownish clouds, many fuscous marks along the veins.  
**tessellatus**.  
No clouds; only the costal vitta.....7.
7. Vitta broadly interrupted so as to be three barely connected spots; dark brown in color.....**coloradensis**.  
Vitta not so interrupted.....8.
8. Vitta pale ferruginous, setæ and femora unmarked, large species...**pallidus**.  
Vitta brown, setæ and femora usually marked with brown.....9.
9. Body pale reddish brown; legs pale, only slightly marked with brown; vitta does not extend back farther in second lobe than elsewhere.  
**ferrugineus**.  
Body dark brown; legs more or less marked with fuscous; vitta extends back farther in second lobe than elsewhere.....**americanus**.

**Callibaetis montanus** Eaton.

Eaton, Riv. Mon. Ephemer., p. 196 (1884).

Yellowish brown, dorsum darker; femora scarcely marked, tarsi and setæ hardly annulate; basal costal region hyaline; the costa is, however, interruptedly white and brown; vitta pale brownish, broader at base, hind edge regular, with only a few indistinct and narrow indentations; cross-veins brown, about twenty-two beyond vitta, only one posterior series; vitta has only a few small spots on the basal part.

Length 8 mm.; expanse 19 mm.

Near Tacubaya, D. F., Mexico (O. W. Barrett). Central America (Eaton).

**Callibaetis floridanus** n. sp.

Body uniform ferruginous; femora thickly dotted with brown, tips of tarsal joints brown; setæ pale, narrowly annulate with brown; costa of wings unmarked, basal costal region hyaline, vitta pale brownish, broader at base, with about seven or eight small narrow indentations on hind edge, otherwise the edge is very regular, cross-veins in middle of wing brownish, about twenty cross-veins beyond vitta, only one posterior series.

Length 6 mm.; expanse 15 mm.

Biscayne Bay, Florida (Mrs. A. T. Slosson).

**Callibaetis fluctuans** Walsh.

Walsh, Proc. Acad. Nat. Sci. Phil., 1862, p. 379.

Brown; femora faintly dotted with brown; tips of tarsal joints brown; setæ narrowly annulate with brown; vitta of wing yellowish brown, including the basal costal space, broader at base, with only two or three small indentations on hind edge, all beyond the middle, many spots in costal region, about eighteen cross-veins beyond vitta, all brown, only one posterior series.

Length 7 mm.; expanse 15.5 mm.

Washington, D. C.; Illinois (Walsh). Eaton has placed this as a synonym of *C. ferruginea*, but they are very different and in different sections of the genus.

**Callibaetis californicus** n. sp.

Brown; femora plainly and thickly dotted with brown; tarsal joints tipped with brown; setæ narrowly annulate with brown; vitta of wing dark brown, including the basal costal space, with about eight or ten indentations on hind edge, those on basal part quite wide; costal area to beyond middle much marked with pale, not round spots, but short bands from vein to costa; about twenty-two cross-veins beyond vitta, those of middle plainly snow-white, only one posterior series of cross-veins.

Length 6 mm.; expanse 15 mm.

Southern California (A. P. Morse).

**Callibaetis undatus** Pict.

Pictet, Ephemer., p. 264 (1845).

*C. pictus* Eaton, Trans. Ent. Soc. Lond., 1871, p. 122.

Brown; femora thickly spotted with brown, tarsi brown, and usually a spot on

tibiæ; setæ annulate with brown, rather broadly at base; vitta of wing much broken up into spots, three larger than others, basal costal space hyaline, but along the costa are scattered brown dots; on apical part of wing and along outer margin are many more or less distinct clouds, usually around veins; about twenty-two cross-veins beyond vitta, some of them white, but one posterior series.

Length 8 mm.

Near Tacubaya, D. F., Mexico (Barrett). Eaton records it from Texas, California and various places in Mexico.

**Callibaetis tessellatus** Hag.

Hagen, Syn. Neur. N. Amer., p. 50 (1861).

*C. hageni* Eaton, Riv. Mon. Ephem., p. 192 (1884).

Dark brown, femora but little dotted with brown, setæ narrowly annulate with brown; vitta of wing dark brown, including the basal costal space, broader at base, hind edge with three broad and deep indentations, and several smaller toward tip, the vitta in second lobe extends back on the wing for some distance (farther than in other species), along the costal area are a number of hyaline spots; along veins are many short, narrow brown clouds; many cross-veins beyond vitta, many of them white, two irregular series of posterior cross-veins.

Length 8 mm.; expanse 17 mm.

Tacoma, Washington, Sept. (A. P. Morse); California, according to Eaton.

**Callibaetis americanus** n. sp.

Very dark brown, almost black; femora thickly dotted with brown; tarsi and setæ marked with brown; vitta of wing dark brown, broader at base, hind edge quite even, with three principal indentations, usually quite narrow, costal area with hyaline spots, no clouds along the veins; many cross-veins, mostly white; two quite regular series of posterior cross-veins; base of hind wing often brown.

Length 7.5 mm.

Pullman, Washington, April (R. W. Doane), also one from Clear Creek, Colorado, September (Oslar). A specimen from Franconia, N. H. (Mrs. Slosson), seems to fall here, but the vitta is not well developed.

**Callibaetis coloradensis** n. sp.

Dark brown; femora finely dotted with brown; tarsi tipped with brown; vitta of wing dark brown, broken up into three principal spots, one, the largest, apical, one pterostigmatical, one before the middle, and a smaller one at base; basal costal space hyaline; the longitudinal veins are in places slightly marked with brown; the cross-veins are numerous, mostly white; two irregular posterior series; the abdomen is shorter than in the other species of this section.

Length 7 mm.; expanse 16 mm.

Durango, Colorado, June (Oslar).

**Callibaetis ferrugineus** Walsh.

Walsh, Proc. Acad. Nat. Sci. Phil., 1862, p. 379.

Ferruginous; femora thickly spotted with light brown, tarsi and setæ marked

with brown; vitta light brown, covering basal costal space, with many transverse hyaline spots in costal area, hind edge with three principal indentations and two smaller toward tip, otherwise quite even, no clouds along veins, although they are brown in parts; cross-veins beyond vitta numerous, mostly white, two and often more series of posterior cross-veins.

Length 6.5 mm.; expanse 16 mm.

Sea Cliff, New York; Agric. Coll., Michigan (Pettit); Illinois (Walsh).

#### ***Callibaetis pallidus* n. sp.**

Pale ferruginous; femora and setæ pale, unmarked, tarsi blackish; costa marked with brown and white; vitta pale ferruginous, extreme basal costal space hyaline, vitta with a number of hyaline spots, especially near the pterostigmal region, hind edge with several broad indentations, especially on basal half; many cross-veins beyond vitta, mostly white, two and often more posterior series.

Length 9 mm.; expanse 21 mm.

Clear Creek, Colorado, September (Oslar). Distinct by large size, pale color, etc.

### 'CHYSOPIDÆ.

#### ***Leucochrysa mexicana* n. sp.**

Face yellowish, reddish toward mouth; basal joint of antennæ yellowish, with a red line on upper inner side and a red spot on outside, rest of the antennæ whitish, darker on tips; vertex green, separated from face by a transverse red line from eye to eye, angulate at middle; prothorax green, red on the side margins, narrowed in front; mesothorax green, the anterior lobes each with a red spot; legs pale greenish; wings hyaline, veins green, transverse ones mostly black, pterostigma brown, the divisory veinlet of third cubital cell reaches nearly to end of cell; hind wing similar to fore wings, but with fewer cross-veins dark, pterostigma brown, very distinct.

Length 17 mm.

Chavarillo, Vera Cruz, Mexico (Barrett).

### PANORPIDÆ.

#### ***Panorpa signifer* n. sp.**

Reddish; mouth rather blackish; basal joints of antennæ pale, rest dark brown; legs yellowish; basal segments of abdomen brown above; wings hyaline, with brown spots and bands, two basal spots, a band—sometimes interrupted—before the middle, a median costal mark, a broad band beyond middle, forked behind, the outer part sometimes disconnected, and a broad apical band, which has a pale area on the lower outer side, in this spot the cross-veinlets are white; hind wings similar to fore pair, but the band beyond middle is a trifle more broad than in fore pair, while the basal marks are smaller. In fore wing the costal vein runs to the pterostigma. Fifth abdominal segment of male has a short conical projection above at tip, the sixth segment is strongly constricted at base and suddenly enlarged near middle.

Gaylord, Michigan, July (R. H. Pettit). This bears much resemblance to what I consider *P. venosa*, but the projection on tip of fifth segment is smaller, and the sixth segment is more constricted, besides the genitalia are not so much elevated in the middle when seen from the side.

#### TRICHOPTERA.

##### **Agrypnetes curvata** n. sp.

Pale yellowish, clothed with short yellowish hair, veins at and near anastomosis darker, abdomen brown above; head large, three large ocelli; antennæ short and stout, well separated at base; prothorax with two warts above; legs very stout, spurs very short, 2-4-4; the joints two to four of anterior tarsus very short, practically no spines, on hind legs, however, there are extremely minute ones on the tarsi; anterior tarsi do not show any fringe of hair; wings very narrow, the costal margin concave, the posterior margin convex; venation almost the same as the European species (*A. crassicornis*), the discal cell is a trifle longer, and the posterior anastomosis rather more oblique, the anal venation is exactly the same, surface of wing nearly bare.

Length 11 mm.

St. Anthony Park, Minnesota (Pettit). When the wings are closed the insect in side view is highest at middle and curves down each way. I place this in *Agrypnetes* on account of the close correspondence in venation, in absence of spines on legs, in structure of legs, in size and color; but the spurs are plainly 2-4-4.

#### LEPTOPHYLAX n. gen.

Spurs 1-3-4. Basal joint of antenna nearly as long as broad, antennæ rather short and stout; prothorax well developed, flat above as well as the vertex of head, both traversed by a median furrow. Wings very slender, acute at tips, discal cell nearly twice as long as its pedicel, first apical cell some distance on discal cell, fifth apical short pedicellate; hind wings slender, emarginate as in *Colpotaulius*, fifth apical cell long pedicellate, first some distance on discal cell.

##### **Leptophylax gracilis** n. sp.

Head yellowish; a median black line on vertex, which is flat, clothed with long erect yellowish hairs, prothorax flat above, about twice as broad as long, surface tuberculate, a median black line, clothed with erect yellowish hair; antennæ yellowish, apex more reddish, basal joints long, well separated; legs pale yellowish, with black spines, none on anterior face of fore tibiæ, hind femora plainly shorter and stouter than middle femora, hind tibiæ curved. Wings over four times as long as broad, broadest beyond anastomosis, pale yellowish hyaline, not rugulose, veins brown, a brown streak through many of the cells sometimes

broken into spots, the anal margin toward base almost wholly brown; surface with scattered short yellowish hairs. Hind wings hyaline, veins yellowish. Abdomen yellowish.

Length 16 mm.

St. Anthony Park, Minnesota (R. H. Pettit).

**Limnophilus americanus n. sp.**

Pale yellowish, head between antennæ and basal joints of antennæ beneath more reddish; thorax with a pale reddish brown stripe each side; wings yellowish hyaline, marked, chiefly in the posterior half, with light brown, before the middle of the discal cell there arises a whitish oblique mark, which cuts across the brown part, and at anastomosis another mark, which, however, does not extend completely across the brown, and before middle of the apical cells is another whitish, somewhat crescentic mark, the middle of apex of wing is hyaline, but the third cell is brown, as well as most of the subapicals; the pterostigmal region is slightly brownish; legs pale yellowish, the spines black, except those on the anterior face of the fore tibiæ, which are yellowish. Wings of moderate length, discal cell a little longer than the pedicel, first apical about its width on discal cell, fourth apical narrow at base, fifth a short distance on thyridial area, cubitals fractured at anastomosis.

Length 14 mm.

Idaho (C. V. Piper). One from Orono, Maine (Harvey), appears to belong to this species, but it is rather smaller and darker.

**Limnophilus consimilis n. sp.**

Clear pale yellow, clothed with yellow hair; thorax and abdomen pale brown, middle of thorax clothed with yellow hair, legs pale yellow, spines black; wings yellowish hyaline, veins yellow, posterior half of wing light brown; through the middle of the thyridial area is a silvery-white stripe, which at base turns slightly backward, limited behind by a dark brown stripe, first and second apical cells pale throughout, the others silvery white in base, limited by a wavy, dark brown mark, the third and fourth pale to beyond middle, the fifth on less than basal half, the thyridium broadly marked with brown from one anastomosis to the other, a silvery spot in thyridial cell near base, costal space unmarked, fringe on apex of wing blackish; discal cell plainly longer than its pedicel, fifth apical cell only a short distance on thyridial area; hind wings hyaline, grayish on tip, veins yellowish.

Length 18 mm.

South Park, Colorado, August (Oslar).

Related to *L. ornatus* Bks., but wings broader, the silvery mark not oblique, the fifth apical cell pale only in base, and other differences.

**Asynarchus centralis n. sp.**

Black, clothed with black hair; palpi slender; basal joints of antennæ long and well separated, rest of antennæ narrowly annulate with pale; femora at tips, most of tibiæ and the tarsal joints pale; spines black; wings uniform blackish, sparsely clothed with very short, nearly golden hair, veins almost black, arculus and thyridium white, membrane not granulate, discal cell once and one-half as

long as its pedicel, fifth apical cell pointed at base, not extending on thyridial area, first apical cell for about its width on discal cell, upper branch of cubitus fractured at posterior anastomosis, the radius bent at pterostigma; hind wings uniform blackish, with nearly black veins, fourth apical cell broad at base, the third pointed.

Length 16 mm.

Colorado: South Park, August; Clear Creek, Sept. (Oslar).

**Asynarchus tristis** n. sp.

Face yellow; antennæ yellowish, narrowly annulate, except on basal joints, with brown, vertex black, behind yellowish, prothorax with golden pubescence and long yellow hairs; thorax dark, pale in middle, pleura yellowish, wings a uniform dirty yellowish gray, sparsely clothed with short yellowish hair, surface distinctly rugulose, veins yellowish, a brown dot in base of third apical cell, thyridium unmarked, arculus white, first subapical very long, discal cell more than twice as long as its pedicel, not concave above, inferior cubitus fractured at posterior anastomosis, upper branch continuous, fifth apical extends scarcely basad of anastomosis; hind wings uniformly faint gray, veins yellowish, fourth apical broad at base.

Length 20 mm.

South Park, Colorado, August (Oslar).

**Stenophylax pacificus** n. sp.

Black, with stiff black hairs; antennæ black, beyond base narrowly annulate with pale; femora, except pale tips, black, rest of legs yellowish, spines black, many on anterior face of fore tibiæ, hind tibiæ much curved, slender, fore wings blackish brown, pterostigma darker, post-cubitus and anal veins marked with dark brown, veins mostly black, a pale area on bases of apicals, except the first, pale in base and apex of first subapical, arculus pale, and an oblique pale mark starting from middle of thyridial area and reaching backward across thyridial cell, fourth subapical usually very dark, many scattered, very small, pale dots not sharply defined. Apicals of about equal width at base, except fifth, which is much narrower and extends but little basad of the anastomosis; discal cell plainly longer than its pedicel, slightly concave in front; radial vein bent at pterostigma; the cubitals fractured at the posterior anastomosis. Hind wings hyaline, veins mostly brown, pterostigma dark, fourth apical cell broad at base, discal cell slightly longer than its pedicel.

Length 15 mm.

Pullman, Washington, May (C. V. Piper).

**Stenophylax antennatus** n. sp.

Head yellowish, with yellow hair, antennæ yellow, basal joints long, beneath with a distinct black line; legs pale yellow, rather darker on tips, spines black, tibiæ very short; wings pale yellow, costal region unmarked, veins mostly pale, apical sectors marked with brown, wing beyond the post-cubitus and the subapicals mostly brown, somewhat irrorate with pale, surface plainly rugulose, with sparse, short, fine, pale hairs; fore wing rather long and slender, the apex obliquely truncate, discal cell a little longer than its pedicel, slightly concave in front, first apical cell much longer on discal cell than fifth apical on thyridial

area, all cells broad at anastomosis, upper cubitus fractured at posterior anastomosis, inferior branch continuous, radius much bent at pterostigma; hind wings hyaline, veins pale.

Length 20 mm.

Mt. Ranier, Washington (C. V. Piper).

Not a true *Stenophylax*, but do not desire at present to make a new genus from the one specimen, which is easily recognized by the line on basal joint of antennæ.

#### **HOMOPHYLAX n. gen.**

Spurs 1-3-4, subapical pair on hind legs unequal in size; prothorax small; wings rather broad, apex blunt-pointed, apical margin slightly rounded, the anterior and posterior anastomoses in one nearly continuous line, so that the apical cells are as far back as the subapicals, the first subapical not on thyridial area, discal cell about twice as long as pedicel, thyridial cell only a little longer, radius bent at stigma; hind wing with third apical cell narrow at base, the fourth broad. Easily distinguished from all our other Limnophilids by the position of the anterior anastomosis.

#### **Homophylax flavipennis n. sp.**

Pale yellowish throughout, clothed with yellow hair; basal joints of antennæ as long as head, well separated, more reddish; prothorax with long yellow hair; legs slender, with black spines, hind tibiæ curved, with one spine before middle, subapical spurs about twice their length before tip; wings pale yellowish hyaline, veins yellowish, uniformly clothed with short yellowish pubescence, membrane granulate, areculus and thyridium white, first apical cell broad at base, but a very short distance on discal cell.

Length 18 mm.

South Park, Colorado, Aug. (Oslar).

#### **Halesus formosus n. sp.**

Head yellowish, with nearly golden hairs above, antennæ yellowish, darker toward the tips, thorax reddish yellow, prothorax with golden hairs, legs yellowish, the tibiæ and tarsi more reddish, spines black, two small ones at tip of each anterior femur, hind femora spined nearly to base; spurs 1-3-3. Wings hyaline, marked with brown, costal area free to the dark pterostigma, tip of wing narrowly and irregularly pale, a pale area across the apicals before middle, but the apicals are dark at base, a pale area just within the anastomosis connected to a pale stripe that starts from before the pterostigma and reaches obliquely backward toward middle of the hind margin, but not crossing the post-cubitus, an oblong pale spot toward base along the anal vein, elsewhere brown, containing scattered pale circular dots; costal veins and radial sector to anastomosis pale, elsewhere the veins mostly dark; hind wings grayish on tip.

Length 22 mm.

Southwest Colorado, July (Oslar).

**Potamorites virginica** n. sp.

Face reddish yellow; vertex black, behind yellowish, the antennæ black; legs and palpi clear pale yellowish; tarsi darker; spines black, short; thorax and abdomen yellowish; wings uniform blackish; costal veins dark, others paler; a white dot, furcate toward base, on the thyridium, and a smaller one at the areculus; there are indistinct traces of various hyaline dots, especially in the costal and apical regions; wing with a gray fringe, quite long on the costal margin; discal cell shorter than its pedicel; membrane faintly granulate, a larger and darker granule in the base of the third apical cell; apex of wing rather broad and rounded (not obliquely truncate); hind wings broad, uniformly gray, with a gray fringe, fourth apical cell broader than third at base.

Length 13 mm.

Richmond, Virginia (Mrs. A. T. Slosson).

Evidently closely related to the European *P. biguttatus*, but with broader wings.

**Chaetopterygopsis parvula** n. sp.

Face yellowish, vertex more brownish, nearly flat, basal joints of antennæ long, brown, rest of antennæ yellowish, joints tipped with brown, thorax dirty yellowish, legs clear yellowish, with fine black spines, rather fewer on tibiæ than usual, spurs 1-2-2; fore wings pale brownish, indistinctly irrorate with hyaline, anastomosis darker, surface distinctly rugulose, sparsely clothed with short yellow hair, a circular white spot containing a brown central dot in base of the third apical cell, veins pale, wing rather broad and short, apex rounded, discal cell nearly twice the length of its pedicel, first apical cell some distance on discal cell, fifth apical cell scarcely on thyridial cell at all, the cubital veins not fractured at posterior anastomosis; margin with a scant fringe, nearly as long on costal as on apical margin. Hind wings not much shorter than fore wings, hyaline, with yellowish veins and pubescence, a brown dot in base of third apical cell, fourth apical cell broad at base.

Length 8.5 mm.

New Brunswick, N. J. (Prof. J. B. Smith).

**Notidobia americana** n. sp.

Head black, with tufts of black hair from the warts on the vertex; maxillary palpi flattened and upcurved, masking the face, yellowish white, with short whitish hair; antennæ black, basal joint yellowish below, not elongate; thorax black, with black hair; legs light brown, middle and hind tibiæ and tarsi paler, spurs 2-2-4; abdomen black; the genitalia yellow; wings blackish, with much black and a little yellow pubescence; hind wings blackish, with dark gray fringe, discal cell closed, that of fore wings open; inferior appendages long, sickle-shaped, upcurved, slender at base.

Length 12 mm.

Falls Church, Virginia, June.

**Heteroplectron nigripennis** n. sp.

Head yellowish, with bunches of black hair each side below antennæ and behind each eye, vertex shows a blunt median ridge; palpi and antennæ black, densely black-haired; thorax dark brown, with black hair; legs black, thickly

clothed with short black hairs, spurs 2-4-4 (♀); wings uniformly blackish, somewhat shining, clothed with short black hair, veins black, fringe black; hind wings uniform blackish, with black fringe; abdomen blackish.

Length 12 mm.

Santa Maria, Puebla, Mexico (Barrett).

**Heteroplectron mexicanum** n. sp.

Head, palpi and antennæ black, with short black hair, a pale reddish spot on middle of vertex, prothorax above and below yellowish, rest of thorax black, with black hair; legs black, with short black hair, spurs 2-4-4 (♀); abdomen yellowish; wings uniformly blackish, sparsely clothed with short yellowish hair, veins black, fringe very short, black; hind wings much shorter, blackish, fringe black.

Length 15 mm.

Cuernavaca, Morelos, Mexico (Barrett).

**Leptocella minuta** n. sp.

Greenish; head and thorax clothed with white hair; antennæ white, narrowly annulate with brown; palpi and legs yellowish, with white hairs; wings hyaline, clothed with snow-white hair, and a white fringe, a few black dots beyond the anastomosis; discal cell nearly as long as the pedicel, convex above, first apical cell reaches about one-half way to the anastomosis, fifth to about two-thirds.

Length 8 mm.

Pullman, Washington (C. V. Piper).

**Ocetina guttata** n. sp.

Pale yellowish; head clothed with white and pale yellow hair; legs whitish; antennæ pale on base, narrowly annulate with brown, apical half darker; wings pale brown, clothed with golden scales, and with about thirty white dots, most numerous in apical part, where they usually adjoin a brown dot; fringe mostly golden, but with some brown posteriorly, anastomosis not darker than other veins; hind wings dark gray, with a brown fringe.

Length 7 mm.

New Brunswick, N. J. (J. B. Smith).

**Triænodes borealis** n. sp.

Dirty yellowish, verging on brown; head clothed with white hair; palpi with many black hairs; antennæ pale, narrowly annulate with brown; wings with many yellowish hairs, but with plenty of black, giving the wing a gray appearance, much darker than *T. flavescens*; sometimes two black dots on hind margin, fringe at apex mostly yellowish, but at posterior angle fuscous; hind wings pale gray, with gray fringe; venation as in *T. ignita*.

Length 12 mm.

St. Anthony's Park, Minnesota (Pettit).

**Triænodes flavescens** n. sp.

Yellowish; head clothed with white hair; palpi with many gray and some black hairs; antennæ white, narrowly annulate with brown; wings clothed with

golden hair, often with two black dots on the posterior margin, apical fringe wholly golden; hind wings hyaline, fringe pale gray; venation as in *T. ignita*.

Length 10 mm.

New Brunswick, N. J. (J. B. Smith); Florida (Mrs. Slosson).

Our four species of *Triænoides* may be separated by the following table:

1. Wings beyond anastomosis distinctly darker than before it.....***ignita***.
- Wings unicolorous.....2.
2. Fringe at posterior apical margin more or less fuscous.....3.
- Fringe golden.....***flavescens***.
3. Wings with mostly gray hair.....***grisea***.
- Wings with mostly yellow hairs.....***borealis***.

***Triænoides ignita* Walk.**

Specimens have been seen from Washington, D. C.; Ithaca, N. Y.; Agric. College, Mich., and New Brunswick, N. J.

***Triænoides grisea* Banks.**

Specimens all come from Colorado: Denver, Boulder and Clear Creek.

***Hydropsyche occidentalis* n. sp.**

Head densely clothed with short white hair, at each posterior corner is a bunch of longer black hair; antennæ yellowish, narrowly annulate with brown, thorax clothed mostly with white hair in the middle, bunches of black on the sides; legs yellowish; wings brown, densely irrorate with white, a large area just beyond discal cell, and a large spot at arculus, apical fringe dark brown, with a few white patches; venation as usual, first apical cell usually shorter than its pedicel; hind wings gray hyaline; on the middle tibiæ the median spurs are plainly nearer to base than to tip.

Length 10 mm.

Pullman, Washington, August (C. V. Piper).

***Hydropsyche grandis* n. sp.**

Head clothed with yellowish hair, and a bunch of black at each posterior corner; antennæ yellow, narrowly annulate with brown, clothed above with yellow hair; legs pale yellowish, spurs 2-4-4, the median pair on middle tibiæ scarcely nearer to the base than to tip; abdomen fuscous; wings yellowish hyaline, veins dark brown, surface densely irrorate with brown, usually in irregular wavy bands, beyond the anastomosis becoming very dense and occupying most of the surface, venation as in *H. scalaris*, but the first apical cell is longer, usually longer than its pedicel; hind wings pale gray; in the female the intermediate tibiæ and basal joint of tarsus is broad.

Length 16 mm.

Southwest Colorado, July (Oslar).

Our largest species of the genus and very prettily marked.

**Philopotamus barrettæ n. sp.**

Head black, with short yellow pubescence, above on each side is a large tuft of long black hair, three ocelli; palpi black; antennæ yellowish; thorax with yellow pubescence on middle and black on sides; legs yellowish, the femora blackish, except on tips; abdomen yellowish; fore wings brown, with large irregular patches of golden yellow hair, one near base on cubiti, several long ones along veins before and at the anastomosis, one on middle of costal margin, and several small ones along the apical margin, elsewhere with black pubescence; hind wings blackish, with black fringe.

Length 10 mm.

Jalapa, Vera Cruz, Mexico (Barrett).

**Polycentropus variegatus n. sp.**

Face with gray hair, above with yellowish hair, each side behind is a tuft of black hair; antennæ brown, narrowly annulate with pale, thorax with short yellow and tufts of long black hair; legs yellowish, anterior pair darker outside, spurs 3-4-4; wings with dark brown hair and many scattered patches of yellow, most numerous on apical part, where there is a round spot in apex of each cell and each side of pterostigma; venation as in *P. confusa*; hind wings gray on base, blackish on apical half.

Length 9 mm.

Pullman, Washington, July (C. V. Piper).

**POTAMYIA n. gen.**

A Hydropsychid near *Macronema*. No ocelli; spurs 2-4-4; antennæ long, basal joint short; maxillary palpi slender, destitute of long hair; wings rather long, with scant pubescence, discal cell closed, longer than in *Macronema*, first and fifth apical cells long pedicellate, third acute at base, no veinlet closing off base of first subapical into a median cell, and the radius does not run into the subcostal vein before tip.

Type *P. flava* Hag. (sub *Macronema*).

**Rhyacophila mexicana n. sp.**

Head dark brown, with some short yellow hair, behind on vertex are two oblique approximate yellowish lobes; antennæ pale yellow, darker on tips; palpi brown, long; thorax black, with bright yellow hair; legs clear yellowish, middle femora blackish, except on tips, spurs brown, 2-4-4, median pair on middle tibia much nearer to base than to tip; abdomen yellowish; wings brown, densely clothed to slightly beyond the anastomosis with short, bright, golden yellow hair, beyond with black pubescence, the costal region black, fifth apical cell with a pedicel about one-third its length; hind wings uniform blackish.

Length 10 mm.

Xico, Vera Cruz, Mexico (Barrett).