

A CHECKLIST OF THE EPHEMEROPTERA OF NORTH AMERICA NORTH OF MEXICO

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The publication in 1935 of "The Biology of Mayflies" by J. G. Needham, J. R. Traver, and Yin-chi Hsu gave considerable impetus to the study of the North American mayfly fauna. The extensive researches on Ephemeroptera during the last twenty years have largely out-dated the checklist provided therein by Dr. Traver's monograph of the North American species. Many additional species have been described and some European species are now known to occur in North America. Some new genera have been described and others added to the known Nearctic fauna. The list of species has been reduced by a number of new synonymies and the placement of some as subspecies of other species. Other changes are a result of the transfer of species from one genus to another, and a rearrangement of higher categories to follow the system proposed by Edmunds and Traver (1954).

A few names have been included in the past in the North American checklist in the hope that they might be eventually correctly applied. In the few cases where we feel that there is no chance of positively applying these names we are indicating them as *nomina dubia*, with the intent of having the names suppressed later as provided for in the Copenhagen decisions of the International Commission of Zoological Nomenclature. Those names which we think can not be applied are *Ephemera noveboracana* Lichtenstein (1796), *Callibaetis hageni* Eaton (1885), *Ephemerella unicornis* Needham (1905), *Cloe quebecensis* Provancher (1876), *Ephemerella consimilis* Walsh (1862), and *Palingenia puella* Pictet (1843), and we declare these *nomina dubia* for the following reasons.

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Ephemera noveboracana Lichtenstein was apparently the first mayfly described from North America, but its authorship has been credited to Hagen (1862). Mr. D. E. Kimmins has examined the copy of Lichtenstein's paper at the British Museum and has informed us (*in litt.*) that Lichtenstein's name is available as of that date. The name has been regarded heretofore as a junior synonym of *Siphonurus luridipennis* (Burmeister, 1839), but it is actually prior to this name when it is credited to Lichtenstein's authorship. The species before Lichtenstein is unidentifiable from the description, no type is known to exist, and even the placement of this as a *Siphonurus* is extremely uncertain. *Callibaetis hageni* Eaton (*Baetis tessellatus* Hagen not Walker) never can be identified with certainty from the type subimago female. It is probable that Eaton's (1885) description applies to the species known as *Callibaetis carolus* Traver, but whether this is true of the type is uncertain. *Ephemerella unicornis* Needham may be the senior synonym of *E. simplex* McDunnough, but even by comparing fresh material from the type area with the type Burks (1953) was unable to place *E. unicornis* with any confidence. *Cloe quebecensis* Provancher is identifiable only to the genus *Ephemerella* from the female type (See Burks, 1953: 58) and also should be placed as a *nomen dubium*. *Ephemerella consimilis* Walsh is not recognizable from the original description and none of Walsh's specimens of this species are known to exist (See Burks, *op. cit.*: 57). According to Burks (*op. cit.*: 28) *Palingenia puella* (now *Tortopus puella*) can probably never be identified with certainty. The type has not, so far as is known, been located and compared with recently collected material, and the original description is not adequate.

During the compilation of this checklist we have been faced many times with conflicting taxonomic opinions. In many cases our own

experiences with the taxonomy of the forms has influenced our decisions, but generally we have followed the opinion of the last reviser.

We have included in the bibliography only those papers published since or not included in *The Biology of Mayflies*.

Superfamily HEPTAGENIOIDEA

Family Siphonuridae

Subfamily Siphonurinae

- AMELETUS Eaton, 1885: 210.
 aequivocus McDunnough, 1934: 164.
 alticolus McDunnough, 1934: 163.
 amator Mayo, 1939: 149.
 browni McDunnough, 1933: 278.
 celer McDunnough, 1934: 161.
 celeroides McDunnough, 1934: 162.
 connectina McDunnough, 1939: 50.
 connectus McDunnough, 1936: 209.
 cooki McDunnough, 1929: 174.
 dissitus Eaton, 1885: 210.
 exquisitus Eaton, 1885: 212.
 facilis Day, 1952: 24.
 falsus McDunnough, 1938: 30.
 imbellis Day, 1952: 23.
 lineatus Traver, 1932: 194.
 ludens Needham, 1905: 36.
 monta Mayo, 1952: 93.
 oregonensis McDunnough, 1933: 157.
 querulus McDunnough, 1938: 29.
 shepherdii Traver, 1934: 238.
 similior McDunnough, 1928: 9.
 sparsatus McDunnough, 1931: 89.
 subnotatus Eaton, 1885: 211.
 suffusus McDunnough, 1936: 210.
 tertius McDunnough, 1938: 27.
 tuberculatus McDunnough, 1939: 50.
 validus McDunnough, 1923: 50.
 vancouverensis McDunnough, 1933: 157.
 velox Dodds, 1923: 105.
 vernalis McDunnough, 1924: 115.
- EDMUNDSIUS Day, 1953: 19.
 agilis Day, 1953: 22.
- ACANTHAMETROPUS Tshernova, 1948: 1453 (= *Metreturus* Burks, 1953: 146, *New synonymy*).
 pecatonica Burks, 1953: 147, *New combination*.
- PARAMELETUS Bengtsson, 1908: 242.
 chelifera Bengtsson, 1908: 242.
 columbiae McDunnough, 1938: 31.
 croesus (McDunnough, 1923: 48).
 midas (McDunnough, 1923: 49).
- SIPHONISCA Needham, 1909: 72.
 aerodromia Needham, 1909: 72.
- SIPHONURUS Eaton, 1868: 89.
 alternatus (Say, 1824: 304).
 annulata Walker, 1853: 567.
 autumnalis McDunnough, 1931: 89.
 barbaroides McDunnough, 1929: 174.
 barbarus McDunnough, 1924: 225.
 columbianus McDunnough, 1925: 187.
 decorus Traver, 1932: 182.
 inflatus McDunnough, 1931: 90.
 luridipennis (Burmeister, 1839: 801).
 marginatus Traver, 1932: 179.
 marshalli Traver, 1934: 236.
 mirus Eaton, 1885: 221.
 noveboracana Lichtenstein, 1796: III, 193, 52. *nomen dubium*.

- occidentalis Eaton, 1885: 218.
 phyllis McDunnough, 1923: 49.
 quebecensis (Provancher, 1878: 127).
 triangularis Clemens, 1915: 250.
 rapidus McDunnough, 1924: 75.
 securifer McDunnough, 1926: 301.
 spectabilis Traver, 1934: 233.
 maria Mayo, 1939: 145.
 typicus Eaton, 1885: 222.
 berenice McDunnough, 1923: 49.
 novangliae McDunnough, 1924: 75.

Subfamily Isonychiinae

- ISONYCHIA Eaton, 1871: 134.
 annulata Traver, 1932: 204.
 arida (Say, 1839: 42).
 aurea Traver, 1932: 224.
 bicolor (Walker, 1853: 552).
 albomanicatus (Needham, 1905: 31).
 christina Traver, 1934: 240.
 circe Traver, 1934: 242.
 diversa Traver, 1934: 244.
 fattigi Traver, 1934: 245.
 georgiae McDunnough, 1931: 159.
 harperi Traver, 1934: 246.
 intermedia (Eaton, 1885: 207).
 matilda Traver, 1934: 248.
 notata Traver, 1932: 210.
 obscura Traver, 1932: 217.
 pacoleta Traver, 1932: 218.
 pictipes Traver, 1934: 250.
 rufa McDunnough, 1931: 162.
 sadleri Traver, 1934: 251.
 sayi Burks, 1953: 110.
 serrata Traver, 1932: 222.
 sicca campestris McDunnough, 1931: 161.
 sicca manca Eaton, 1871: 134.
 sicca sicca (Walsh, 1862: 371).
 similis Traver, 1932: 213.
 thalia Traver, 1934: 253.
 tusculanensis Berner, 1948: 117.
 velma Needham, 1932: 273.

Family Oligoneuriidae

Subfamily Oligoneuriinae

- HOMOBONEURIA Eaton, 1881: 192.
 ammophila (Spieth, 1938: 1), *New combination*
 LACHLANIA Hagen, 1868: 373.
 powelli Edmunds, 1951: 327.
 saskatchewanensis Ide, 1941: 154.

Family Heptageniidae

Subfamily Heptageniinae

- ANEPEORUS McDunnough, 1925: 190.
 rusticus McDunnough, 1925: 190.
 simplex (Walsh, 1863: 204).
- ARTHROPLEA BENGTSOON, 1908: 239.
 bipunctata (McDunnough, 1924: 76).
- CINYGMA Eaton, 1885: 247.
 dimicki McDunnough, 1934: 182.
 integrum Eaton, 1885: 248.
 lyriformis (McDunnough, 1924: 226).
- CINYGMULA McDunnough, 1933: 75.
 confusa (McDunnough, 1924: 131).
 gartrelli McDunnough, 1934: 182.
 kootenai McDunnough, 1943: 3.
 mimus (Eaton, 1885: 249).
 par (Eaton, 1885: 249).
 hyalina McDunnough, 1924: 132, *New synonymy*.
 ramaleyi (Dodds, 1932: 101).
 tollandi (Dodds, 1923: 109).
 reticulata McDunnough, 1934: 184.
 subaequalis (Banks, 1914: 615).
 atlantica (McDunnough, 1924: 131), *New synonymy*.

- tarda (McDunnough, 1929: 178).
 tioga Mayo, 1952: 184.
 uniformis McDunnough, 1934: 183.
- EPEORUS EATON, 1881: 26.
 sg. IRON Eaton, 1883: pl. 24, fig. 44.
 albertae McDunnough, 1924: 129.
 youngi Traver, 1935: 412.
 deceptivus (McDunnough, 1924: 132).
 dispar Traver, 1933: 161.
 dulciana McDunnough, 1935: 103.
 fragilis Morgan, 1911: 104.
 tenuis Traver, 1935: 412.
 frisoni Burks, 1946: 608.
 hesperus (Banks, 1924: 424).
 sancta-gabriel Traver, 1935: 410, *New synonymy*.
 langunitas Traver, 1935: 405.
 longimanus (Eaton, 1885: 245).
 proprius Traver, 1935: 408.
 namatus Burks, 1946: 607.
 pleuralis (Banks, 1910: 201).
 fraudator Traver, 1935: 402.
 confusus Traver, 1935: 398.
 punctatus McDunnough, 1925: 189.
 rubidus Traver, 1933: 158.
 subpallidus Traver, 1937: 54.
 suffusus McDunnough, 1925: 189.
 vitrea (Walker, 1853: 555).
 humeralis Morgan, 1911: 105.
 sg. IRONODES Traver, 1935: 32.
 arctus Traver, 1935: 33.
 californicus (Banks, 1910: 202).
 flavipennis Traver, 1935: 33.
 geminatus (Eaton, 1885: 250).
 lepidus Traver, 1935: 35.
 nitidus (Eaton, 1885: 246).
 sg. IRONOPSIS Traver, 1935: 36.
 grandis (McDunnough, 1924: 130).
 permagnus Traver, 1935: 37.
- HEPTAGENIA Walsh, 1863: 197.
 ✓ adaequata McDunnough, 1924: 120.
 ✓ aphrodite McDunnough, 1926: 194.
 ✓ criddlei McDunnough, 1927: 261.
 ✓ cruentata Walsh, 1863: 205.
 reversalis McDunnough, 1924: 118.
 ✓ diabasia Burks, 1946: 610.
 ✓ dolosa Traver, 1935: 344.
 ✓ elegantula (Eaton, 1885: 253).
 coxalis Banks, 1914: 615.
 querula McDunnough, 1924: 119.
 ✓ flavescens (Walsh, 1862: 373).
 ✓ hebe McDunnough, 1924: 122.
 ✓ horrida McDunnough, 1926: 301.
 ✓ inconspicua McDunnough, 1924: 118.
 ✓ julia Traver, 1933: 149.
 ✓ juno McDunnough, 1924: 121.
 ✓ kennedyi McDunnough, 1924: 225.
 ✓ lucidipennis (Clemens, 1913: 329).
 ✓ maculipennis Walsh, 1863: 206.
 ✓ manifesta (Eaton, 1885: 253).
 ✓ marginalis Banks, 1910: 198.
 ✓ minerva McDunnough, 1924: 121.
 ✓ otiosa McDunnough, 1935: 104.
 ✓ patoka Burks, 1946: 612.
 ✓ perfida McDunnough, 1926: 301.
 ✓ persimplex McDunnough, 1929: 179.
 ✓ pulla (Clemens, 1913: 330).
 ✓ rodocki Traver, 1935: 357.
 ✓ rosea Traver, 1935: 358.
 rubroventris Traver, 1935: 359.
 ✓ rusticalis McDunnough, 1931: 92.
 ✓ simplicioides McDunnough, 1924: 120.
 ✓ solitaria McDunnough, 1924: 119.
 ✓ spinosa Traver, 1933: 153.
 ✓ thetis Traver, 1935: 362.
 ✓ townesi Traver, 1935: 363.
- ✓ unbratica McDunnough, 1931: 92.
 ✓ walshi McDunnough, 1926: 193.
- RHITHROGENA Eaton, 1881: 23.
 amica Traver, 1935: 373.
 anomala McDunnough, 1928: 239.
 brunnea (Hagen, 1875: 581).
 hageni Eaton, 1885: 253.
 brunneotincta McDunnough, 1933: 280.
 decora Day, 1954: 19.
 doddsi McDunnough, 1926: 196.
 exilis Traver, 1933: 166.
 fasciata Traver, 1933: 170.
 flavianula (McDunnough, 1924: 225).
 fuscifrons Traver, 1933: 168.
 futilis McDunnough, 1934: 187.
 gaspeensis McDunnough, 1933: 279.
 impersonata (McDunnough, 1925: 191).
 jejuna Eaton, 1885: 252.
 fusca (Walker, 1853: 568), not Burmeister, 1839: 800.
 morrisoni (Banks, 1924: 424).
 pellucida Daggy, 1945: 333.
 petulans (Seemann, 1927: 42).
 robusta Dodds, 1923: 103.
 rubicunda Traver, 1937: 46.
 sanguinea Ide, 1954: 349.
 uhari Traver, 1933: 165.
 undulata (Banks, 1924: 425).
 virilis McDunnough, 1934: 187.
- STENONEMA Traver, 1933: 173.
 alabamiae Traver, 1937: 79.
 annexum Traver, 1933: 179.
 areion Burks, 1953: 163.
 ares Burks, 1953: 170.
 bipunctatum (McDunnough, 1926: 191).
 candidum Traver, 1935: 308.
 carolina (Banks, 1914: 616).
 exiguum Traver, 1933: 201.
 femoratum femoratum (Say, 1823: 162).
 femoratum scitulum Traver, 1935: 330.
 femoratum tripunctatum (Banks, 1910: 199).
 birdi Traver, 1935: 306.
 fuscum (Clemens, 1913: 254).
 gildersleevei Traver, 1935: 315.
 integrum (McDunnough, 1924: 9).
 bellum Traver, 1933: 202.
 wabasha Daggy, 1945: 378.
 interpunctatum canadense (Walker, 1853: 569).
 ohioense Traver, 1935: 322.
 interpunctatum frontale (Banks, 1910: 199).
 conjunctum Traver, 1935: 309.
 majus Traver, 1935: 320.
 proximum Traver, 1935: 325.
 interpunctatum heterotarsale McDunnough, 1933: 42.
 interpunctatum interpunctatum (Say, 1839: 41).
 affine Traver, 1933: 184.
 flaveola Pictet, 1843: 186.
 pallidum Traver, 1933: 181.
 ithaca (Clemens and Leonard, 1925: 17).
 lepton Burks, 1946: 614.
 luteum (Clemens, 1913: 252).
 mediopunctatum (McDunnough, 1926: 191).
 metriotes Burks, 1953: 174.
 minnetonka Daggy, 1945: 376.
 modestum (Banks, 1910: 202).
 nepotellum McDunnough, 1933: 20.
 pudicum (Hagen, 1861: 39).
 pulchellum (Walsh, 1862: 375).
 rubromaculatum (Clemens, 1913: 256).
 rubrum (McDunnough, 1926: 192).
 smithae Traver, 1937: 77.
 terminatum (Walsh, 1862: 376).
 placita Banks, 1910: 199).
 varium Traver, 1933: 192.
 vicarium (Walker, 1853: 565).
 tesselata (Walker, 1853: 566).
 rivulicolus (McDunnough, 1933: 40).

Subfamily **Pseudironinae**

- PSEUDIRON McDunnough, 1931: 91.
 centralis McDunnough, 1931: 91.
 meridionalis Traver, 1935: 437.

Family **Ametropodidae**Subfamily **Ametropodinae**

- AMETROPUS Albarda, 1878: 129.
 albrighti Traver, 1935: 431.
 neavei McDunnough, 1928: 9.

Subfamily **Metretopodinae**

- METRETOPUS Eaton, 1901: 253.
 borealis Eaton, 1871: 137.
 norvegicus Eaton, 1901: 254.
- SIPHLOPLECTON Clemens, 1915: 258.
 basale (Walker, 1853: 565).
 flexus (Clemens, 1913: 338).
 costalense Spieth, 1938: 1.
 interlineatum (Walsh, 1863: 190).
 signatum Traver, 1932: 186.
 speciosum Traver, 1932: 191.

Family **Baetidae**Subfamily **Baetinae**

- APOBAETIS Day, 1955: 126.
 indepressus Day, 1955: 127.
- BAETIS Leach, 1815: 137.
 adonis Traver, 1935: 680.
 akataleptos McDunnough, 1926: 188.
 alius Day, 1954: 32.
 amplius (Traver, 1932: 233).
 anachris Burks, 1953: 133.
 australis Traver, 1932: 230.
 baeticatus Burks, 1953: 129.
 bicaudatus Dodds, 1923: 110.
 minimus Dodds, 1923: 113, *New synonymy*.
 brunneicolor McDunnough, 1925: 173.
 cingulatus McDunnough, 1925: 216.
 cleptis Burks, 1953: 130.
 curiosus (McDunnough, 1923: 43).
 devinctus Traver, 1935: 684.
 diabolus Day, 1954: 30.
 elachistus Burks, 1953: 127.
 endymion Traver, 1935: 686.
 ephippiatus Traver, 1935: 687.
 erebus Traver, 1935: 687.
 flavistriga McDunnough, 1921: 120.
 foemina McDunnough, 1936: 33.
 frivolus McDunnough, 1925: 174.
 frondalis McDunnough, 1925: 173.
 harti McDunnough, 1924: 7.
 herodes Burks, 1953: 130.
 hiemalis Leonard, 1950: 155.
 hudsonicus Ide, 1937: 221.
 incertans McDunnough, 1925: 220.
 insignificans McDunnough, 1926: 300.
 intercalaris McDunnough, 1921: 118.
 lasallei Banks, 1924: 425.
 intermedius Dodds, 1923: 110.
 jesmondensis McDunnough, 1938: 25.
 lapponica (Bengtsson, 1912: 111).
 leechi Day, 1954: 29.
 levitans McDunnough, 1925: 216.
 macdunnoughi Ide, 1937: 230.
 moffati Dodds, 1923: 112.
 nanus McDunnough, 1923: 42.
 ochris Burks, 1953: 132.
 pallidulus McDunnough, 1924: 8.
 palisadi Mayo, 1952: 95.
 parallelus Banks, 1924: 425.

- parvus Dodds, 1923: 113.
 persecuta McDunnough, 1939: 52.
 phoebus McDunnough, 1923: 41.
 phyllis Burks, 1953: 134.
 piscatoris Traver, 1935: 697.
 pluto McDunnough, 1925: 218.
 posticatus (Say, 1824: 162).
 propinquus (Walsh, 1863: 207).
 dardanus McDunnough, 1923: 41.
 pygmaeus (Hagen, 1861: 54).
 quilleri Dodds, 1923: 112.
 rusticans McDunnough, 1925: 217.
 spiethi Berner, 1940: 52.
 spinosus McDunnough, 1925: 174.
 sulfurosus Day, 1954: 33.
 thermophilos McDunnough, 1926: 188.
 tricaudatus Dodds, 1923: 111.
 unicolor (Hagen, 1861: 54).
 hageni Eaton, 1885: 169.
 vagans McDunnough, 1925: 219.

- BAETODES Needham and Murphy, 1924: 55.
 species?, Edmunds, 1950: 203.

CALLIBAETIS Eaton, 1881: 196.

- americanus Banks, 1900: 250.
 brevicostatus Daggy, 1945: 388.
 californicus Banks, 1900: 249.
 carolus Traver, 1935: 663.
 coloradensis Banks, 1900: 250.
 doddsi Traver, 1935: 664.
 vitrea Dodds, 1923: 100 not Navas, 1918: 81.
 ferrugineus (Walsh, 1862: 379).
 floridanus Banks, 1900: 249.
 fluctuans (Walsh, 1862: 379).
 fuscus Dodds, 1923: 100.
 hageni (Eaton, 1885: 192), *nomen dubium*.
 tessellata Hagen, 1861: 50 not Walker, 1853: 566.
 hebes Upholt, 1936: 120.
 montanus Eaton, 1885: 196.
 nigritus Banks, 1918: 12.
 claudiae Edmunds, 1945: 169, *nomen nudum*.
 pacificus Seemann, 1927: 49.
 pallidus Banks, 1900: 251.
 pictus (Eaton, 1871: 122).
 pretiosus Banks, 1914: 615.
 semicostatus Banks, 1914: 614.
 signatus Banks, 1918: 11.
 skokianus Needham, 1903: 215.
 traveriae Upholt, 1937: 86.

CENTROPILUM Eaton, 1869: 132.

- album McDunnough, 1926: 189.
 asperatum Traver, 1935: 708.
 bellum McDunnough, 1924: 96.
 bifurcatum McDunnough, 1924: 96.
 caliginosum McDunnough, 1925: 175.
 conturbatum McDunnough, 1929: 171.
 convexum Ide, 1930: 222.
 elsa Traver, 1935: 713.
 fragile McDunnough, 1923: 42.
 hobbsi Berner, 1946: 77.
 infrequens McDunnough, 1924: 98.
 intermediale McDunnough, 1931: 87.
 oreophilum Edmunds, 1954: 1.
 ozburni McDunnough, 1924: 97.
 quaesitum McDunnough, 1931: 87.
 rivulare Traver, 1935: 716.
 rufostrigatum McDunnough, 1924: 95.
 bistrigatum Daggy, 1945: 389.
 selanderorum Edmunds, 1954: 2.
 semirufum McDunnough, 1926: 189.
 simile McDunnough, 1924: 97.
 venosum Traver, 1935: 718.
 victoriae McDunnough, 1938: 27.
 viridocularis Berner, 1940: 39.
 walshi McDunnough, 1929: 173.

CLOEON Leach, 1815: 137.

- dipterum (Linnaeus, 1761: 377). (Adventive).
- implicatum McDunnough, 1924: 113.
- inatum McDunnough, 1924: 113.
- ingens McDunnough, 1923: 44.
- insignificans McDunnough, 1925: 186.
- mendax (Walsh, 1862: 381).
- minor McDunnough, 1926: 190.
- rubropictum McDunnough, 1923: 43.
- simplex McDunnough, 1925: 185.
- triangulifer McDunnough, 1931: 88.
- vicinum (Hagen, 1861: 54).

NEOCLOEON Traver, 1932: 365.

- alamance Traver, 1932: 367.

PARDACLOEODES Day, 1955: 121.

- abitus Day, 1955: 122.

PSEUDOCLOEON Klapalek, 1905: 105.

- alachua Berner, 1940: 58.
- anoka Daggy, 1945: 391.
- bimaculatus Berner, 1946: 79.
- carolina (Banks, 1924: 426).
- chlorops (McDunnough, 1923: 45).
- cingulatum McDunnough, 1931: 85.
- dubium (Walsh, 1862: 380).
- elliotti Daggy, 1945: 392.
- etowah Traver, 1935: 726.
- futile McDunnough, 1931: 86.
- ida Daggy, 1945: 393.
- minutum Daggy, 1945: 394.
- myrsum Burks, 1953: 139.
- parvulum McDunnough, 1932: 210.
- punctiventris (McDunnough, 1923: 45).
- rubrolaterale McDunnough, 1931: 86.
- turbidum McDunnough, 1924: 113.
- veteris McDunnough, 1924: 8.
- virile (McDunnough, 1923: 46).

Superfamily LEPTOPHLEBIOIDEA

Family Leptophlebiidae

Subfamily Leptophlebiinae

- CHOROTERPESES Eaton 1881: 194.
- albiannulata McDunnough, 1924: 221.
- basalis (Banks, 1900: 248).
- ferruginea Traver, 1934: 205.
- fusca Spieth, 1938: 4.
- hubbelsi Berner, 1946: 65.
- inornata Eaton, 1892: 6.
- nanita Traver, 1934: 203.
- oklahoma Traver, 1934: 204.
- terratoma Seemann, 1927: 46.

HABROPHLEBIA Eaton, 1881: 195.

- pusilla Traver, 1932: 118.
- vibrans Needham, 1908: 192.
- jocosa Banks, 1914: 614.

HABROPHLEBIOIDES Ulmer, 1920: 39.

- americana (Banks, 1903: 235).
- betteni (Needham, 1908: 194).
- annulata Traver, 1934: 199.
- brunneipennis Berner, 1946: 61.

LEPTOPHLEBIA Westwood, 1840: 31.

- sg. LEPTOPHLEBIA, sensu strictu.
- johnsoni McDunnough, 1924: 73.
- gracilis (Traver, 1932: 133).
- sg. BLASTURUS Eaton, 1881: 193.
- austrina (Traver, 1932: 129).
- collina (Traver, 1932: 124).
- cupida (Say, 1823: 163).
- hebes (Walker, 1853: 538).
- concinna (Walker, 1853: 553).
- pallipes (Walker, 1853: 553).
- ignava (Hagen, 1861: 47).

- grandis (Traver, 1932: 127).
- gravastella (Eaton, 1884: 102).
- intermedia (Traver, 1932: 136).
- nebulosa (Walker, 1853: 554).
- odonatus (Walsh, 1862: 372).
- pacifica (McDunnough, 1933: 155).
- vibex (Traver, 1934: 197).

PARALEPTOPHLEBIA Lestage, 1917: 340.

- adoptiva (McDunnough, 1929: 169).
- assimilis (Banks, 1914: 614).
- associata (McDunnough, 1924: 221).
- compar Traver, 1934: 193.
- bicornuta (McDunnough, 1926: 299).
- bradleyi (Needham, 1932: 274).
- brunneipennis (McDunnough, 1924: 221).
- cachea Day, 1954: 22.
- californica Traver, 1934: 195.
- clara (McDunnough, 1933: 155).
- debilis (Walker, 1853: 569).
- separata (Ulmer, 1920: 27).
- falcata Traver, 1934: 190.
- georgiana Traver, 1934: 191.
- gregalis (Eaton, 1884: 98).
- invalida (McDunnough, 1926: 297).
- guttata (McDunnough, 1924: 95).
- helena Day, 1952: 17.
- heteronea (McDunnough, 1924: 93).
- jeanae Berner, 1955: 245.
- moerens (McDunnough, 1924: 94).
- mollis (Eaton, 1871: 88).
- ontario (McDunnough, 1926: 299).
- packi (Needham, 1927: 45).
- pallipes (Hagen, 1875: 582).
- memorialis (Eaton, 1884: 98).
- placerti Mayo, 1939: 152.
- praepedita (Eaton, 1884: 99).
- quisquilia Day, 1952: 21.
- rufivenosa (Eaton, 1884: 99).
- sculleni Traver, 1934: 189.
- sticta Burks, 1953: 92.
- strigula (McDunnough, 1932: 209).
- swannanoa (Traver, 1932: 113).
- temporalis (McDunnough, 1926: 297).
- vaciva (Eaton, 1884: 97).
- volitans (McDunnough, 1924: 95).
- zayante Day, 1952: 20.

- THRAULODES Ulmer, 1920: 33.
- arizonicus McDunnough, 1942: 117.
- speciosus Traver, 1934: 201.

TRAVERELLA Edmunds, 1948: 141.

- albertana (McDunnough, 1931: 82).
- presidiana (Traver, 1934: 199).

Family Ephemerellidae

Subfamily Ephemerellinae

- EPHEMERELLA Walsh, 1862: 377.
- aestiva McDunnough, 1931: 64.
- alleghehiensis Traver, 1934: 221.
- argo Burks, 1949: 232.
- attenuata McDunnough, 1925: 42.
- aurivillii (Bengtsson, 1908: 243).
- aaroni Eaton, 1908: 149.
- norda McDunnough, 1924: 223.
- concinna Traver, 1934: 219.
- autumnalis McDunnough, 1934: 158.
- bicolor Clemens, 1913: 336.
- bicoloroides McDunnough, 1938: 23.
- catawba Traver, 1932: 153.
- cherokee Traver, 1937: 71.
- choctawhatchee Berner, 1946: 71.
- cognata Traver, 1934: 231.
- coloradensis Dodds, 1923: 97.
- columbiella McDunnough, 1935: 97.
- conestee Traver, 1932: 168.

consimilis Walsh, 1862: 378, *nomen dubium*.
 cornuta Morgan, 1911: 114.
 cornutella McDunnough, 1931: 82.
 coxalis McDunnough, 1926: 186.
 deficiens Morgan, 1911: 111.
 atrescens McDunnough, 1925: 43.
 delantala Mayo, 1952: 94.
 depressa Ide, 1930: 212.
 doddsi Needham, 1927: 111.
 doris Traver, 1934: 208.
 dorothea Needham, 1908: 190.
 euterpe Traver, 1934: 213.
 excrucians Walsh, 1862: 377.
 semiflava McDunnough, 1926: 300.
 flavilinea McDunnough, 1926: 188.
 flavitincta McDunnough, 1934: 155.
 fratercula McDunnough, 1925: 213.
 frisoni McDunnough, 1927: 10.
 funeralis McDunnough, 1925: 210.
 glacialis Traver, 1934: 207.
 glacialis carsona Day, 1952: 32.
 grandis Eaton, 1884: 128.
 hecuba Eaton, 1884: pl. 40.
 heterocaudata McDunnough, 1929: 170.
 hirsuta Berner, 1946: 70.
 hystrix Traver, 1934: 212.
 spinosa Mayo, 1951: 122.
 inermis Eaton, 1884: 127.
 infrequens McDunnough, 1924: 223.
 ingens McDunnough, 1934: 154.
 invaria (Walker, 1853: 568).
 jacobi McDunnough, 1939: 49.
 lapidula McDunnough, 1935: 96.
 lata Morgan, 1911: 112.
 inflata McDunnough, 1926: 187.
 levis Day, 1954: 15.
 lita Burks, 1949: 235.
 lodi Mayo, 1952: 179.
 longicornis Traver, 1932: 164.
 lutulenta Clemens, 1913: 335.
 lineata Clemens, 1913: 336.
 maculata Traver, 1934: 216.
 margarita Needham, 1927: 114.
 micheneri Traver, 1934: 227.
 minimella McDunnough, 1931: 63.
 mollita McDunnough, 1930: 57.
 mollitia Seemann, 1927: 44.
 needhami McDunnough, 1925: 171.
 ora Burks, 1949: 235.
 pelosa Mayo, 1951: 121.
 proserpina Traver, 1934: 223.
 yosemite Traver, 1934: 225.
 prudenialis McDunnough, 1931: 40.
 quebecensis (Provancher, 1876: 267), *nomen dubium*.
 rotunda Morgan, 1911: 113.
 feminina Needham, 1924: 309.
 septentrionalis McDunnough, 1925: 171.
 serrata Morgan, 1911: 109.
 serratoides McDunnough, 1931: 83.
 sierra Mayo, 1952: 96.
 simplex McDunnough, 1925: 41.
 soquele Day, 1954: 18.
 sordida McDunnough, 1925: 42.
 spinifera Needham, 1927: 110.
 subvaria McDunnough, 1931: 84.
 temporalis McDunnough, 1924: 73.
 teresa Traver, 1934: 230.
 tibialis McDunnough, 1924: 224.
 angusta Traver, 1934: 211.
 trilineata Berner, 1946: 67.
 tuberculata Morgan, 1911: 112.
 unicornis Needham, 1905: 45, *nomen dubium*.
 (? = simplex McDunnough).
 verisimilis McDunnough, 1930: 57.
 vernalis Banks, 1914: 614.
 inconstans Traver, 1932: 149.
 walkeri Eaton, 1884: 129.
 fuscata (Walker, 1853: 570), not Stephens, 1835: 66.
 bispina Needham, 1905: 43.

wayah Traver, 1932: 172.
 wilsoni Mayo, 1952: 100.

Family Tricorythidae

Subfamily Leptohiphinae

LEPTOHYPHES Eaton, 1882: 208.
 species? Burks, 1953: 55.

TRICORYTHODES Ulmer, 1920: 51.

- albilineatus Berner, 1946: 72.
- allectus (Needham, 1905: 47).
- × atratus (McDunnough, 1923: 39).
- explicatus (Eaton, 1892: 11).
- fallax Traver, 1935: 634.
- × fictus Traver, 1935: 635.
- minutus Traver, 1935: 636.
- fallacina* McDunnough, 1939: 53, *New synonymy*.
- × peridius Burks, 1953: 48.
- × stygiatus McDunnough, 1931: 267.
- × texanus Traver, 1935: 638.

Superfamily CAENOIDEA

Family Caenidae

Subfamily Caeninae

- BRACHYCERCUS Curtis, 1834: 122.
- flavus Traver, 1935: 640.
 - lacustris (Needham, 1918: 249).
 - pallidus* (Ide, 1930: 218), not Tshernova, 1928: 114.
 - idei* Lestage, 1931: 119, n. n. for *pallidus* Ide.
 - maculatus Berner, 1946: 76.
 - nitidus (Traver, 1932: 139).
 - prudens (McDunnough, 1931: 264).
- CAENIS Stephens, 1835: 61.
- amica Hagen, 1861: 55.
 - anceps Traver, 1935: 645.
 - delicata Traver, 1935: 647.
 - diminuta Walker, 1853: 584.
 - forcipata McDunnough, 1931: 262.
 - gigas Burks, 1953: 53.
 - hilaris (Say, 1839: 43).
 - jocosa McDunnough, 1931: 260.
 - latipennis Banks, 1907: 14.
 - punctata McDunnough, 1931: 259.
 - ridens McDunnough, 1931: 256.
 - simulans McDunnough, 1931: 263.
 - tardata McDunnough, 1931: 260.

Family Neoephemeridae

Subfamily Neoephemerinae

- NEOEPHEMERA McDunnough, 1925: 168.
- bicolor McDunnough, 1925: 168.
 - compressa Berner, 1956: 34.
 - purpurea (Traver, 1931: 105).
 - youngi Berner, 1953: 145.

Superfamily EPHEMEROIDEA

Family Potamanthidae

Subfamily Potamanthinae

- POTAMANTHUS Pictet, 1845: 197.
- diaphanus Needham, 1908: 193.
 - distinctus Traver, 1935: 280.
 - inequalis Needham, 1909: 74.
 - myops (Walsh, 1863: 207).
 - medius* Banks, 1908: 259.
 - neglectus Traver, 1935: 282.
 - rufous Argo, 1927: 323.
 - verticis (Say, 1839: 42).
 - flaveola* (Walsh, 1862: 377).
 - walkeri Ide, 1935: 119.

Family Ephemeridae

Subfamily Ephemerinae

EPHEMERA Linnaeus, 1758: 546.

- blanda Traver, 1932: 104.
 compar Hagen, 1875: 578.
 guttulata Pictet, 1843: 135.
 simulans Walker, 1853: 536.
natata (Walker, 1853: 551).
decora Walker, 1853: 537.
 traverae Spieth, 1938: 5.
 triplex Traver, 1935: 253.
 varia Eaton, 1883: 69.

HEXAGENIA Walsh, 1863: 197.

- atrocaudata McDunnough, 1924: 92.
 bilineata (Say, 1824: 303).
 limbata limbata (Serville, in Guerin-Meneville, 1829: 34).
variabilis Eaton, 1883: 55.
 limbata californica Upholt, 1937: 85.
 limbata occulta (Walker, 1853: 551).
mingo Traver, 1931: 597.
 limbata venusta Eaton, 1883: 54.
pallens Traver, 1935: 271.
 limbata viridescens (Walker, 1853: 551).
angulata Walker, 1853: 564.
 munda affiliata McDunnough, 1927: 119.
 munda elegans Traver, 1931: 594.
weewa Traver, 1931: 605.
kanuga Traver, 1937: 29.
 munda marilandica Traver, 1931: 599.
carolina Traver, 1931: 601.
rosacea Traver, 1931: 607.
 munda munda Eaton, 1883: 53.
 munda orlando Traver, 1931: 608.
 recurvata Morgan, 1913: 395.
 rigida McDunnough, 1924: 90.

PENTAGENIA Walsh, 1863: 196.

- robusta McDunnough, 1926: 185.
 vittigera (Walsh, 1862: 373).
quadripunctata Walsh, 1863: 198.

Family Polymitarcidae

Subfamily Polymitarcinae

EPHORON Williamson, 1802: 71.

- album (Say, 1824: 305).
 leukon Williamson, 1802: 71.

Subfamily Campsurinae

CAMPSURUS Eaton, 1868: 83.

- decoloratus (Hagen, 1861: 43).

TORTOPUS Needham and Murphy, 1924: 23.

- circumfluus Ulmer, 1942: 110.
 incertus (Traver, 1935: 286).
 primus (McDunnough, 1924: 7).
manitobensis (Ide, 1941: 155).
 puella (Pictet, 1843: 145), *nomen dubium*.

Superfamily PROSOPISTOMATOIDEA

Family Baetiscidae

Subfamily Baetiscinae

BAETISCA Walsh, 1862: 378.

- bajkovi Neave, 1934: 166.
 callosa Traver, 1931: 57.
 carolina Traver, 1931: 51.
thomsenae Traver, 1937: 61.
 escambiensis Berner, 1955: 2.
 gibbera Berner, 1955: 11.
 lacustris McDunnough, 1932: 214.
 laurentina McDunnough, 1932: 214.
 obesa (Say, 1839: 43).
 rogersi Berner, 1940: 156.
 rubescens (Provancher, 1878: 127).

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