The Type Localities of the Ephemeroptera of North America North of Mexico

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INTRODUCTION

The systematic study of North American mayflies (Ephemeroptera) can develop in an orderly and vigorous manner only when there is an adequate knowledge of the described species. When published descriptions are inadequate for revisionary studies, the first recourse is to the examination of types. Type specimens are at times quite inadequate for sound revisionary study as they may be poorly preserved, represented by inadequate series, or known in only one sex and life history stage. In such cases, new collections from the type locality may be invaluable in providing further data on a poorly known species. Unfortunately, systematic works are not usually organized in such a way as to direct attention to type localities when a collector has the opportunity to make new collections.

To facilitate the re-collection of type localities this list of type localities is arranged by state or province, or country only if the type locality is not in the United States or Canada. For each species the type locality and date of collection are listed. To further aid entomologists revising a given taxon this geographical list is cross-indexed with a revised check list of the mayfly species of North America north of Mexico.

It is hoped that this catalogue will stimulate Ephemeropterists to seek collections of poorly known species when collecting in areas that have served as collection sites for the types of various species. Topotypical collections of well known species may seem unnecessary, but these may be of special value if the species should prove to be polytypic.

In the systematic list all synonyms are indented and placed in italics under the valid name. In the case of species renamed because of homonymy the type locality of the rejected homonym is automatically the type locality. In the geographical list the type localities of synonyms are included because topotypical series of some species now in synonymy are valuable for checking the correctness of accepted synonymies. Complete references on literature citations in the list of species are included in the bibliography only when they have not been included in Needham, Traver and Hsu (1935) or in Edmunds and Allen (1957).

Systematics and Nomenclatural Changes

Since the publication of the check list by Edmunds and Allen (1957) several changes have taken place in the nomenclature and systematics of North American mayflies. All of these changes are incorporated in the present systematic list of species and the papers are cited in the references.

Three secondary homonyms were rejected by Eaton (1883–1888) and new names were provided. The rejected names were subsequently reinstated and used by American workers. With the generous aid of D. E. Kimmins of the British Museum (Natural History), I have re-investigated each of these cases. The reinstatement of these names was improper under the current and previous rules of the International Commission of Zoological Nomenclature. Further delay in recognizing the proper names for these species can result only in further confusion. These secondary homonyms are herein rejected and the names provided by Eaton are used as follows, *Baetis hageni* Eaton replaces *B. unicolor* (Hagen), *Rhithrogena hageni* Eaton replaces *R. brunnea* (Hagen), and *Paraleptophlebia memorialis* Eaton replaces *P. pallipes* (Hagen). As will be seen below two of these names are also involved in new synonymies.

My study of North America Ephemeroptera has resulted in the discovery of several new synonyms. It seems best to make these changes here rather than perpetuate the errors.

*Siphonurus occidentalis* Eaton (=*Siphlonurus infatus* McDunnough. *New Synonymy*). *Siphlonurus infatus* was described from female specimens from Cameron Lakes, Waterton Lakes, Alberta. Although the males have never been described, several males in the collection of the American Museum of Natural
History bear determination labels as “*Siphlonurus infilatus* McDunnough, Det. J. McDunnough.” These males are indistinguishable from *S. occidentalis* Eaton. Subsequently, at my request Dr. Richard K. Allen kindly compared some pinned female *S. occidentalis* from our collection with the type of *S. infilatus* in the Canadian National Collection. In his opinion, the females were conspecific. The evidence thus seems adequate the *S. infilatus* is a junior synonym of *S. occidentalis*.

*Rhithrogena hageni* Eaton (=*Rhithrogena brunnea* Hagen not Rambur, *Rhithrogena doddsi* McDunnough. New synonymy). Day (1957) has described the great variation in the penes of *Rhithrogena hageni* (as *R. brunnea*) through a study of a topotypical series and has concluded that *R. doddsi* is possibly only a Rocky Mountain subspecies of *R. brunnea*. He presented little evidence that the Rocky Mountain populations were morphologically differentiated and after study of the type of *R. brunnea* at the Museum of Comparative Zoology, I have concluded that *R. doddsi* is a synonym of *R. hageni* (=*R. brunnea*).

*Baetis hageni* Eaton (=*Baetis unicolor* (Hagen) not Curtis, *Baetis herodes* Burks, New synonymy.) The type specimen of *Baetis hageni* from Washington, D.C. has always been considered unidentifiable because the only exposed hind wing was rolled up and its venation was not determinable. In September, 1960, I removed the minute hind wing from the type at the Museum of Comparative Zoology and mounted in on a slide. The dry rolled-up wing was dropped onto distilled water just as the water came to a boil, then quickly floated onto a glass slide, and covered with a cover glass that was secured with gummed paper and allowed to dry. The resulting slide revealed that this female specimen had a hind wing similar to *Baetis herodes* Burks, a species known only from males from Illinois. In December, 1960, at the American Museum of Natural History, I found numerous associated males and females collected from widely distributed localities in eastern North America by Herman T. Spieth. These specimens had been labeled as the closely allied western species *Baetis parvus* Dodds. The nymph described from Ontario by Ide (1930) as *B. parvus* is quite obviously the nymph of *Baetis hageni*.

*Callibaetis coloradensis* Banks (=*Callibaetis fuscus* Dodds, New synonymy.) In 1952 I examined the type of *Callibaetis fuscus* Dodds at the Academy of Natural Sciences of Philadelphia and in 1960 the type of *Callibaetis coloradensis* Banks at the Museum of Comparative Zoology. Despite the great variation and taxonomic difficulties in this section of the genus there is little or no doubt that the two names apply to the same species. I am familiar with *C. coloradensis* in nature as it is abundant in the mountains of Utah, Wyoming and Colorado.

Edmunds (1955) and Edmunds and Allen (1957) have synonymized a number of species without explaining the basis for such synonymy. The reasons for these synonymsies are as follows. The characteristics of the type specimens of *Cinygmula hyalina* and *C. par* are completely connected by a continuous series of intermediates in color and size; the principal cause of the variation is probably water temperature of the streams where the nymphs develop. *Cinygmula atlantica* was synonymized with *C. subaequalis* after study of the type of the latter; there is no basis on which to recognize two separate species. *Epeorus sancta-gabriel* was synonymized with *E. hesperus* after comparison of the type of *E. hesperus* and near-topotypes of *E. sancta-gabriel*. There is some reason to believe that the type locality of *E. hesperus* is Pacoima, California rather than “Pacoima, Washington,” a locality unknown to me. If so, the type localities of *E. hesperus* and *E. sancta-gabriel* are quite near to one another. *Baetis bicaudatus* and *B. minimus* were synonymized after study of the types of both species and by comparison with series of reared specimens from Utah. *Ephemerella angusta* was synonymized with *E. tibialis* and *Tricorythodes fallacina* was synonymized with *T. minutus* after study of newly-collected topotypical series of *E. angusta* and *T. minutus* and comparison with the much-faded type specimens.
CHECKLIST OF SPECIES

Superfamily HEPTAGENIOIDEA
Family SIPHLONURIDAE

SUBFAMILY SIPHLONURINAE
  aequivocus McDunnough, 1934: 164. Colorado
  alticolus McDunnough, 1934: 163. Alberta
  amador Mayo, 1939: 149. California
  browni McDunnough, 1933: 278. Quebec
  celer McDunnough, 1934: 161. Alberta
  celeroides McDunnough, 1934: 162. British Columbia
  connectina McDunnough, 1939: 50. British Columbia
  connectus McDunnough, 1936: 209. British Columbia
  cooki McDunnough, 1929: 174. Montana
  dissitus Eaton, 1885: 210. California
  exquisitus Eaton, 1885: 212. Oregon
  falsus McDunnough, 1938: 30. Arizona
  lineatus Traver, 1932: 194. North Carolina
  ludens Needham, 1905: 36. New York
  monta Mayo, 1952: 93. British Columbia
  oregonensis McDunnough, 1933: 157. Oregon
  querulus McDunnough, 1938: 29. British Columbia
  shepherdi Traver, 1934: 238. California
  similior McDunnough, 1928: 9. Alberta
  sparsatus McDunnough, 1931: 89. Alberta
  subnotatus Eaton, 1885: 211. Colorado
  suffusus McDunnough, 1936: 210. British Columbia
  tertius McDunnough, 1938: 27. Nova Scotia
  tuberculatus McDunnough, 1939: 50. British Columbia
  validus McDunnough, 1923: 50. Alberta
  vancouverensis McDunnough, 1933: 157. British Columbia
  velox Dodds, 1923: 105. Colorado
  vernalis McDunnough, 1924: 115. British Columbia

  agilis Day, 1953: 22. California

Acanthametropus Tshernova, 1948: 1453.
  pecatonica (Burks, 1953: 147).

  chelifer Bengtsson, 1908: 242. Sweden
  columbiae McDunnough, 1938: 31. British Columbia
croesus (McDunnough, 1923: 48). Ontario
midas (McDunnough, 1923: 49). Ontario

Siphlonisca Needham, 1909: 72.
aerodromia Needham, 1909: 72. New York

Siphlonurus Eaton, 1868: 89.
alternatus (Say, 1824: 304). Northwest Territory
annulata (Walker, 1853: 567). New York
autumnalis McDunnough, 1931: 89. Alberta
barbaroides McDunnough, 1929: 174. Quebec
barbarus McDunnough, 1924: 225. New York
columbianus McDunnough, 1925: 187. British Columbia
decorus Traver, 1932: 182. North Carolina
luridipennis (Burmeister, 1839: 801). Ontario
marginatus Traver, 1932: 179. North Carolina
marshalli Traver, 1934: 236. Arkansas
mirus Eaton, 1885: 221. New Hampshire
noveboracana (Lichtenstein, 1796: III, 193, 52). nomen dubium.
New York
occidentalis Eaton, 1885: 218. Colorado
inflatus McDunnough, 1931: 90. Alberta
phyliss McDunnough, 1923: 49. Alberta
quebecensis (Provancher, 1878: 127). Quebec
triangularis Clemens, 1915: 250. New York
rapidus McDunnough, 1924: 75. Massachusetts
securifer McDunnough, 1926: 301. Ontario
spectabilis Traver, 1934: 233. California
maria Mayo, 1939: 145. California
typicus Eaton, 1885: 222. Massachusetts
berenice McDunnough, 1923: 49. Quebec
novangliae McDunnough, 1924: 75. Massachusetts

SUBFAMILY ISONYCHIINAE

Isonychia Eaton, 1871: 134.
annulata Traver, 1932: 204. North Carolina
arida (Say, 1839: 42). Indiana
aurea Traver, 1932: 224. North Carolina
bicolor (Walker, 1853: 552). Ontario
albomanicatus (Needham, 1905: 31). New York
christina Traver, 1934: 240. New York
circe Traver, 1934: 242. Georgia
diversa Traver, 1934: 244. Tennessee
fattigi Traver, 1934: 245. Georgia
glebiae McDunnough, 1931: 159. Florida
harperi Traver, 1934: 246. New York
internedia (Eaton, 1885: 207). Arizona
matilda Traver, 1934: 248. New York
TYPE LOCALITIES OF THE EPHEMEROPTERA

obscura Traver, 1932: 217. North Carolina
pacoletta Traver, 1932: 218. North Carolina
pictipes Traver, 1934: 250. Georgia
rufa McDunnough, 1931: 162. Iowa
sadleri Traver, 1934: 251. New York
sayi Burks, 1953: 110. Illinois
serrata Traver, 1932: 222. North Carolina
sicca campestris McDunnough, 1931: 161. Alberta
sicca manca Eaton, 1871: 134. Texas
sicca sicca (Walsh, 1862: 371). Illinois
similis Traver, 1932: 213. North Carolina
thalia Traver, 1934: 253. North Carolina
tusculanensis Berner, 1948: 117. Tennessee
velma Needham, 1932: 273. California

Family BAETIDAE

SUBFAMILY BAETINAE


Baetis Leach, 1815: 137.

adonis Traver, 1935: 680. California
akataleptos McDunnough, 1926: 188. Alberta
amplus (Traver, 1932: 233). North Carolina
anachris Burks, 1953: 133. Illinois
baeticatus Burks, 1953: 129. Illinois
bicaudatus Dodds, 1923: 110. Colorado

minimus Dodds, 1923: 113. Colorado
brunneicolor McDunnough, 1925: 173. Ontario
caurinus Edmunds and Allen, 1957: 58. Oregon
cingulatus McDunnough, 1925: 216. Quebec
cleptis Burks, 1953: 130. Illinois
curiosus (McDunnough, 1923: 43). Ontario
devinctus Traver, 1935: 684. California
elachistus Burks, 1953: 127. Illinois
endymion Traver, 1935: 686. Oklahoma
ehiphipterus Traver, 1935: 687. Georgia
ehebus Traver, 1935: 687. Arizona
flavissistiga McDunnough, 1921: 120. Ontario
foemina McDunnough, 1936: 33. Northwest Territory
frivolus McDunnough, 1925: 174. Quebec
frondalis McDunnough, 1925: 173. Quebec

unicolor (Hagen, 1861: 54), not Curtis, 1834: 121.

District of Columbia

erodes Burks, 1953: 130. Illinois

harti McDunnough, 1924: 7. Illinois


hudsonicus Ide, 1937: 221. Manitoba

incertans McDunnough, 1925: 220. Quebec

insignificans McDunnough, 1926: 300. British Columbia

intercalaris McDunnough, 1921: 118. Ontario

basalei Banks, 1924: 425. Wisconsin

intermedius Dodds, 1923: 110. Colorado

jesmondensis McDunnough, 1938: 25. British Columbia

lapponica (Bengtsson, 1912: 111). Sweden


levitans McDunnough, 1925, 216. Quebec

macdunnoughi Ide, 1937: 230. Quebec

moffati Dodds, 1923: 112. Colorado

nanus McDunnough, 1923: 42. Ontario

ochris Burks, 1953: 132. Illinois

pallidulus McDunnough, 1924: 8. Illinois

palisadi Mayo, 1952: 95. California

parallelus Banks, 1924: 425. Nevada

parvus Dodds, 1923: 113. Colorado

persecuta McDunnough, 1939: 52. British Columbia

phoebus McDunnough, 1923: 41. Ontario

phyllis Burks, 1953: 134. Illinois

piscatoris Traver, 1935: 697. California

pluto McDunnough, 1925: 218. Quebec

posticatus (Say, 1824: 162). Pennsylvania

propinquus (Walsh, 1863: 207). Illinois
dardanus McDunnough, 1923: 41. Manitoba

pygmaeus (Hagen, 1861: 54). Quebec

quilleri Dodds, 1923: 112. Colorado

rusticans McDunnough, 1925: 217. Quebec

spiethi Berner, 1940: 52. Florida

spinosus McDunnough, 1925: 174. Manitoba


thermophilos McDunnough, 1926: 188. Wyoming

tricaudatus Dodds, 1923: 111. Colorado

vagans McDunnough, 1925: 219. Quebec

Baetodes Needham and Murphy, 1924: 55.

Callibaetis Eaton, 1881: 196.

americanus Banks, 1900: 250. Colorado

brevicostatus Daggy, 1945: 388. Minnesota
TYPE LOCALITIES OF THE EPHEMEROPTERA

californicus Banks, 1900: 249. California
carolus Traver, 1935: 663. California
coloradensis Banks, 1900: 250. Colorado
  fuscus Dodds, 1923: 100. Colorado
dodsi Traver, 1935: 664. Renamed
  vitrea Dodds, 1923: 100 not Navas, 1918: 81. Colorado
evergreenensis Thew, 1959: 264. Colorado
ferrugineus (Walsh, 1862: 379). Illinois
floridanus Banks, 1900: 249. Florida
fluctuans (Walsh, 1862: 379). Illinois
hageni Eaton, 1885: 192, nomen dubium. Renamed
tessellata (Hagen, 1861: 50) not Walker, 1853: 566. Washington
hebes Upholt, 1936: 120. California
montanus Eaton, 1885: 196. Guatemala
nigritus Banks, 1918: 12. Colorado
claudiae Edmunds, 1945: 169, nomen nudum
pacificus Seemann, 1927: 49. California
pallidus Banks, 1900: 251. Colorado
pictus (Eaton, 1871: 122). Texas
pretiosus Banks, 1914: 615. Virginia
semicostatus Banks, 1914: 614. Manitoba
signatus Banks, 1918: 11. Arizona
traveriae Upholt, 1937: 86. California

Centroptilum Eaton, 1869: 132.
  album McDunnough, 1926: 189. Ontario
asperatum Traver, 1935: 708. California
bellum McDunnough, 1924: 96. Quebec
bifurcatum McDunnough, 1924: 96. Alberta
caliginosum McDunnough, 1925: 175. Quebec
conturbatum McDunnough, 1929: 171. Alberta
convexum Ide, 1930: 222. Ontario
elsa Traver, 1935: 713. Wyoming
fragile McDunnough, 1923: 42. Ontario
hobbsi Berner, 1946: 77. Florida
infrequens McDunnough, 1924: 98. Manitoba
intermediale McDunnough, 1931: 87. Quebec
oreophilum Edmunds, 1954: 1. Oregon
ozburni McDunnough, 1924: 97. Quebec
quaesitum McDunnough, 1931: 87. Alberta
rivulare Traver, 1935: 716. Ohio
rufostriatum McDunnough, 1924: 95. Manitoba
  bistriatum Daggy, 1945: 389. Minnesota
selanderorum Edmunds, 1954: 2. Utah
semirufum McDunnough, 1926: 189. Ontario
simile McDunnough, 1924: 97. Quebec
venosum Traver, 1935: 718. California
victoriae McDunnough, 1938: 27. Nova Scotia
viridocularis Berner, 1940: 39. Florida
walshi McDunnough, 1929: 173. Iowa

Cloeon Leach, 1815: 137.
dipterum (Linnaeus, 1761: 377). Sweden
implicatum McDunnough, 1924: 113. Alberta
inanum McDunnough, 1924: 113. Alberta
ingens McDunnough, 1923: 44. Alberta
insignificans McDunnough, 1925: 186. Ontario
mendax (Walsh, 1862: 381). Illinois
minor McDunnough, 1926: 190. Ontario
rubropictum McDunnough, 1923: 43. Ontario
simplex McDunnough, 1925: 185. Quebec
triangulifer McDunnough, 1931: 88. Ontario
vicinum (Hagen, 1861: 54). District of Columbia

Neocloeon Traver, 1932: 365.
alamance Traver, 1932: 367. North Carolina

abditus Day, 1955: 122. California

Pseudocloeon Klapalek, 1905: 105.
alachua Berner, 1940: 58. Florida
anoka Daggy, 1945: 391. Minnesota
bimaculatus Berner, 1946: 79. Florida
carolina (Banks, 1924: 426). North Carolina
chlorops (McDunnough, 1923: 45). Ontario
cingulatum McDunnough, 1931: 85. Quebec
dubium (Walsh, 1862: 380). Illinois
elliott Daggy, 1945: 392. Minnesota
etowah Traver, 1935: 726. Georgia
futile McDunnough, 1931: 86. Alberta
ida Daggy, 1945: 393. Minnesota
minutum Daggy, 1945: 394. Minnesota
myrsum Burks, 1953: 139. Illinois
parvulum McDunnough, 1932: 210. Ontario
punctiventris (McDunnough, 1923: 45). Ontario
rubrolaterale McDunnough, 1931: 86. Alberta
turbidum McDunnough, 1924: 113. Alberta
veteris McDunnough, 1924: 8. Illinois
virile (McDunnough, 1923: 46). Ontario
TYPE LOCALITIES OF THE EPHEMEROPTERA

Family OLIGONEURIIDAE

**SUBFAMILY OLIGONEURIINAE**

Homoeoneuria Eaton, 1881: 192.

ammophila (Spieth, 1938: 1). Indiana
dolani Edmunds, 1959: 46. Georgia

Lachlania Hagen, 1868: 373.
powell Edmunds, 1951: 327. Utah
saskatchewanensis Ide, 1941: 154. Saskatchewan

**SUBFAMILY HEPTAGENIINAE**

Cinygma Eaton, 1885: 247.
dimicki McDunnough, 1934: 182. Oregon
integrum Eaton, 1885: 248. Oregon
lyriformis (McDunnough, 1924: 226). Alberta

Cinygmula McDunnough, 1933: 75.
confusa (McDunnough, 1924: 131). Alberta
gartrelli McDunnough, 1934: 182. British Columbia
kootenai McDunnough, 1943: 3. British Columbia
mimus (Eaton, 1885: 249). Colorado
par (Eaton, 1885: 249). Arizona
hyalina (McDunnough, 1924: 132). Alberta
ramaleyi (Dodds, 1932: 101). Colorado
tollandi (Dodds, 1923: 109). Colorado
reticulata McDunnough, 1934: 184. Oregon
subaequalis (Banks, 1914: 615). North Carolina
atlantica (McDunnough, 1924: 131). Nova Scotia
tarda (McDunnough, 1929: 178). Alberta
tioga Mayo, 1952: 184. California
uniformis McDunnough, 1934: 183. British Columbia


sg. iron Eaton, 1883: pl. 24, fig. 44.
albertae McDunnough, 1924: 129. Alberta
youngi (Traver, 1935: 412). Montana
deceptivus (McDunnough, 1924: 132.) Alberta
dispar (Traver, 1933: 161). North Carolina
dulciana (McDunnough, 1935: 103). British Columbia
fragilis Morgan, 1911: 104. New York
frisoni Burks, 1946: 608. Maine
hesperus (Banks, 1924: 424). Washington
sancta-gabriel (Traver, 1935: 410). California
lagunitas (Traver, 1935: 405). California
longimanus (Eaton, 1885: 245). Colorado
proprius (Traver, 1935: 408). Colorado
namatus Burks, 1946: 607. Indiana
pleuralis (Banks, 1910: 201). New York
punctatus (McDunnough 1925: 189). Ontario
rubidus (Traver, 1933: 158). North Carolina
subpallidus (Traver, 1937: 54). North Carolina
suffusus (McDunnough, 1925: 189). Quebec
vitrea (Walker, 1853: 555). Ontario
humeralis Morgan, 1911: 105. New York

arctus (Traver, 1935: 33). Oregon
californicus (Banks, 1910: 202). California
flavipennis (Traver, 1935: 33). British Columbia
geminatus (Eaton, 1885: 250). Oregon
lepidus (Traver, 1935: 35). California
nitidus (Eaton, 1885: 246). Oregon

grandis (McDunnough, 1924: 130). Alberta
permagnus (Traver, 1935: 37). Oregon

Heptagenia Walsh, 1863: 197.
adaequata McDunnough, 1924: 120. Alberta
aphrodite McDunnough, 1926: 194. Quebec
criddlei McDunnough, 1927: 261. Wyoming
cruentata Walsh, 1863: 205. Illinois
reversalis McDunnough, 1924: 118. Manitoba
diabasia Burks, 1946: 610. Illinois
dolosa Traver, 1935: 344. Georgia
elegantula (Eaton, 1885: 253). Colorado
coxalis Banks, 1914: 615. Colorado
querula McDunnough, 1924: 119. Manitoba
flavescens (Walsh, 1862: 373). Illinois
hebe McDunnough, 1924: 122. Quebec
horrida McDunnough, 1926: 301. Ontario
inconspicua McDunnough, 1924: 118. Manitoba
julia Traver, 1933: 149. North Carolina
juno McDunnough, 1924: 121. Quebec
kennedyi McDunnough, 1924: 225. California
lucidipennis (Clemens, 1913: 329). Ontario
maculipennis Walsh, 1863: 206. Illinois
manifesta (Eaton, 1885: 253). Illinois
marginalis Banks, 1910: 198. Virginia
minerva McDunnough, 1924: 121. Quebec
otiosa McDunnough, 1935: 104. Oregon
patoka Burks, 1946: 612. Illinois
TYPE LOCALITIES OF THE EPHEMEROPTERA

perifida McDunnough, 1926: 301. Ontario
persimplex McDunnough, 1929: 179. Iowa
pulla (Clemens, 1913: 330). Ontario
rodecki Traver, 1935: 357. Idaho
   *rubroventris* Traver, 1935: 359. California
rusticalis McDunnough, 1931: 92. Quebec
simplicioides McDunnough, 1924: 120. Alberta
solitaria McDunnough, 1924: 119. Alberta
spinosa Traver, 1933: 153. North Carolina
townesi Traver, 1935: 363. South Carolina
unbratica McDunnough, 1931: 92. Quebec
walshi McDunnough, 1926: 193. Ontario

Rhithrogena Eaton, 1881: 23.
anomala McDunnough, 1928: 239. Quebec
brunneotincta McDunnough, 1933: 280. Quebec
exilis Traver, 1933: 166. North Carolina
fasciata Traver, 1933: 170. North Carolina
flavianula (McDunnough, 1924: 225). Colorado
fuscifrons Traver, 1933: 168. North Carolina
futilis McDunnough, 1934: 187. Wyoming
gaspeensis McDunnough, 1933: 279. Quebec
hageni Eaton, 1885: 253. Renamed
   *brunnea* (Hagen, 1875: 581), not Rambur, 1842: 298. California
doddsi McDunnough, 1926: 196. Alberta
impersonata (McDunnough, 1925: 191). Quebec
jejuna Eaton, 1885: 252. Ontario
   *fusca* (Walker, 1853: 568), not Burmeister, 1839: 800. Ontario
morrisoni (Banks, 1924: 424). Nevada
   *petulans* (Seemann, 1927: 42). California
pellucida Daggy, 1945: 383. Minnesota
robusta Dodds, 1923: 103. Colorado
rubicunda Traver, 1937: 46. North Carolina
sanguinea Ide, 1954: 349. Ontario
uhari Traver, 1933: 165. North Carolina
undulata (Banks, 1924: 425). New Mexico
virilis McDunnough, 1934: 187. British Columbia

Stenonema Traver, 1933: 173.
alabamae Traver, 1937: 79. Alabama
annexum Traver, 1933: 179. North Carolina
areion Burks, 1953: 163. Illinois
ares Burks, 1953: 170. Illinois
bipunctatum (McDunnough, 1926: 191). Ontario
candidum Traver, 1935: 308. Ohio
carolina (Banks, 1914: 616). North Carolina
exiguum Traver, 1933: 201. North Carolina
femoratum femoratum (Say, 1823: 162). Ohio
femoratum scitulum Traver, 1935: 330. Oklahoma
femoratum tripunctatum (Banks, 1910: 199). Wisconsin
birdi Traver, 1935: 306. Oklahoma
fuscum (Clemens, 1913: 254). Ontario
gildersleevei Traver, 1935: 315. Ohio
integrum (McDunnough, 1924: 9). Illinois
wabasha Daggy, 1945: 378. Minnesota
interpunctatum canadense (Walker, 1853: 569). Ontario
ohioense Traver, 1935: 322. Ohio
interpunctatum frontale (Banks, 1910: 199). Massachusetts
conjunctum Traver, 1935: 309. Ohio
interpunctatum heterotarsale McDunnough, 1933: 42. Quebec
interpunctatum interpunctatum (Say, 1839: 41). Ontario
flaveola Pictet, 1843: 186. North America
pallidum Traver, 1933: 181. North Carolina
affine Traver, 1933: 184. North Carolina
ithaca (Clemens and Leonard, 1925: 17). New York
luteum (Clemens, 1913: 252). Ontario
mediopunctatum (McDunnough, 1926: 191). Ontario
minnetonka Daggy, 1945: 376. Minnesota
modestum (Banks, 1910: 202). District of Columbia
nepotellum McDunnough, 1933: 20. Quebec
pudicum (Hagen, 1861: 39). District of Columbia
pulchellum (Walsh, 1862: 375). Illinois
rubromaculatum (Clemens, 1913: 256). Ontario
rubrum (McDunnough, 1926: 192). Quebec
smithae Traver, 1937: 77. Alabama
terminatum (Walsh, 1862: 376). Illinois
placitum (Banks, 1910: 199). New York
varium Traver, 1933: 192. North Carolina
vicarium (Walker, 1853: 565). North America
tesselata (Walker, 1853: 566). Nova Scotia
rivulicolus (McDunnough, 1933: 40). Quebec

SUBFAMILY ANEPEORINAE

Anepeorus McDunnough, 1925: 190.

rusticus McDunnough, 1925: 190. Saskatchewan
simplex (Walsh, 1863: 204). Illinois
TYPE LOCALITIES OF THE EPHEMEROPTERA

Subfamily Arthropleinae
Arthroplea Bengtsson, 1908: 239.
bipunctata (McDunnough, 1924: 76). Maine

Subfamily Pseudironinae
Pseudiron McDunnough, 1931: 91.
centralis McDunnough, 1931: 91. Kansas
meridionalis Traver, 1935: 437. Georgia

Family Ametropodidae

Subfamily Ametropodinae
Ametropus Albarda, 1887: 129.
albrighti Traver, 1935: 431. New Mexico
neavei McDunnough, 1928: 9. Alberta

Subfamily Metretopodinae
Metretopus Eaton, 1901: 253.
borealis Eaton, 1871: 137. Norway
norvegicus Eaton, 1901: 254. Norway

Siphloplecton Clemens, 1915: 258.
basale (Walker, 1853: 565). Manitoba
flexus (Clemens, 1913: 338). Ontario
costalense Spieth, 1938: 1. Virginia
interlineatum (Walsh, 1863: 190). Illinois
signatum Traver, 1932: 186. North Carolina
speciosum Traver, 1932: 191. Georgia

Superfamily Leptophlebioidae

Family Leptophlebiidae

Subfamily Lepophlebinae
Choroterpes Eaton, 1881: 194.
albiannulata McDunnough, 1924: 221. Alberta
basalis (Banks, 1900: 248). Pennsylvania
ferruginea Traver, 1934: 205. New York
fusca Spieth, 1938: 4. Ontario
hubbeli Berner, 1946: 65. Florida
inornata Eaton, 1892: 6. Mexico
manita Traver, 1934: 203. Texas
oklahoma Traver, 1934: 204. Oklahoma
terratoma Seemann, 1927: 46. California

Habrophlebia Eaton, 1881: 195.
pusilla Traver, 1932: 118. North Carolina
vibrans Needham, 1908: 192. New York
jocosus Banks, 1914: 614. North Carolina
  americana (Banks, 1903: 235). New Jersey
  betteni (Needham, 1908: 194). New York
  annulata Traver, 1934: 199. Oklahoma
  brunneipennis Berner, 1946: 61. Florida

Leptophlebia Westwood, 1840: 31.
  sg. Leptophlebia, sensu strictu.
    johnsoni McDunnough, 1924: 73. New Hampshire
    gracilis (Traver, 1932: 133). North Carolina
    australina (Traver, 1932: 129). North Carolina
    collina (Traver, 1932: 124). North Carolina
    cupida (Say, 1823: 163). Ohio
      hebes (Walker, 1853: 538). Newfoundland
      concinna (Walker, 1853: 553). Nova Scotia
      pallipes (Walker, 1853: 553). Nova Scotia
      ignava (Hagen, 1861: 47). Newfoundland
  grandis (Traver, 1932: 127). North Carolina
  gravastella (Eaton, 1884: 102). Montana
  intermedia (Traver, 1932: 136). North Carolina
  nebulosa (Walker, 1853: 554). Ontario
   odonatus (Walsh, 1862: 372). Illinois
  pacifica (McDunnough, 1933: 155). Oregon
    vibex (Traver, 1934: 197). Oregon

  adoptiva (McDunnough, 1929: 169). Quebec
  assimilis (Banks, 1914: 614). North Carolina
  associata (McDunnough, 1924: 221). California
    compar Traver, 1934: 193. California
  bicornuta (McDunnough, 1926: 299). Alberta
  bradleyi (Needham, 1932: 274). Georgia
  brunneipennis (McDunnough, 1924: 221). Washington
  californica Traver, 1934: 195. California
  clara (McDunnough, 1933: 155). California
  debilis (Walker, 1853: 569). Nova Scotia
    separata (Ulmer, 1920: 27). Renamed unnecessarily
  falcula Traver, 1934: 190. Oregon
  georgiana Traver, 1934: 191. Georgia
  gregalis (Eaton, 1884: 98). Oregon
    invalida (McDunnough, 1926: 297). British Columbia
  guttata (McDunnough, 1924: 95). Quebec
  heteronea (McDunnough, 1924. 93). Alberta
  jeanae Berner, 1955: 245. Alabama
memorialis Eaton, 1884: 98. Renamed
   *pallipes* (Hagen, 1875: 582) not Walker, 1853: 553. California
moerens (McDunnough, 1924: 94). Quebec
mollis (Eaton, 1871: 88). New York
ontario (McDunnough, 1926: 299). Ontario
packi (Needham, 1927: 45). Utah
placeri Mayo, 1939: 152. California
praepedita (Eaton, 1884: 99). Massachusetts
rufivenosa (Eaton, 1884: 99). Oregon
sculleni Traver, 1934: 189. Oregon
sticta Burks, 1953: 92. Illinois
strigula (McDunnough, 1932: 209). Ontario
swannanoa (Traver, 1932: 113). North Carolina
temporalis (McDunnough, 1926: 297). British Columbia
vaciva (Eaton, 1884: 97). Oregon
volitans (McDunnough, 1924: 95). Quebec

Thraulodes Ulmer, 1920: 33.
   arizonicus McDunnough, 1942: 117. Arizona
   speciosus Traver, 1934: 201. Arizona

Traverella Edmunds, 1948: 141.
   albertana (McDunnough, 1931: 82). Alberta
   presidiana (Traver, 1934: 199). Texas

Family EPHEMERELLIDAE

SUBFAMILY EPHEMERELLINAE

Ephemerella Walsh, 1862: 377.
   sg. Ephemerella, sensu strictu.
   argo Burks, 1949: 232. Indiana
   aurivillii (Bengtsson, 1908: 243). Sweden
   *aroni* Eaton, 1908: 149. Finland
   *norda* McDunnough, 1924: 223. Alberta
   *concinnata* Traver, 1934: 219. Montana
   choctawhatchee Berner, 1946: 71. Florida
   dorothea Needham, 1908: 190. New York
   euterpe Traver, 1934: 213. California
   excrucians Walsh, 1862: 377. Illinois
   *semiflava* McDunnough, 1926: 300. Ontario
   fratercula McDunnough, 1925: 213. Quebec
   inconstans Traver, 1932: 149. North Carolina
   inermis Eaton, 1884: 127. Colorado
infrequens McDunnough, 1924: 223. Alberta
invaria (Walker, 1853: 568). Ontario
maculata Traver, 1934: 216. California
mollita Seemann, 1927: 44. California
needhami McDunnough, 1925: 171. Quebec
ora Burks, 1949: 235. Illinois
rotunda Morgan, 1911: 113. New York
vernalis Banks, 1914: 614. North Carolina
septentrionalis McDunnough, 1925: 171. Ontario
subvaria McDunnough, 1931: 84. Quebec

cognata Traver, 1934: 231. California
deficiens Morgan, 1911: 111. New York
atrescens McDunnough, 1925: 43. Ontario
frisoni McDunnough, 1927: 10. Illinois
levis Day, 1954: 15. California
micheneri Traver, 1934: 227. California
molita McDunnough 1930: 57. Quebec
serrata Morgan, 1911: 109. New York
serratoides McDunnough, 1931: 83. Quebec
sordida McDonnough, 1925: 42. Quebec
spiculosa Berner and Allen, 1961: 152. Tennessee
teresa Traver, 1934: 230. California
tibialis McDunnough, 1924: 224. Alberta
angusta Traver, 1934: 211. Utah

carr. Drunella Needham, 1905: 42.
carnifex Traver, 1934: 221. West Virginia
autumnalis McDunnough, 1934: 158. British Columbia
cherokee Traver, 1937: 71. North Carolina
coloradensis Dodds, 1923: 97. Colorado
conestee Traver, 1932: 168. North Carolina
cornuta Morgan, 1911: 114. New York
cornutella McDunnough, 1931: 82. Quebec
depressa Ide, 1930: 212. Ontario
doddsi Needham, 1927: 111. Utah
flaviflava McDunnough, 1926: 188. Alberta
flavitincta McDunnough, 1934: 155. Oregon
glacialis Traver, 1934: 207. Montana
glacialis carsona Day, 1952: 32. California
grandis Eaton, 1884: 128. Colorado
ingens McDunnough, 1934: 154. British Columbia
lapidula McDunnough, 1935: 96. Wyoming
lata Morgan, 1911: 112. Maine
inflata McDunnough, 1926: 187. Quebec
TYPE LOCALITIES OF THE EPHEMEROPTERA

longicornis Traver, 1932: 164. North Carolina
pelosa Mayo, 1951: 121. California
proserpina Traver, 1934: 223. California
yosemite Traver, 1934: 225. California
sierra Mayo, 1952: 96. California
spinifera Needham, 1927: 110. Montana
tuberculata Morgan, 1911: 112. New York
bispina Needham, 1905: 43. Indiana
fuscata (Walker 1853: 570), not Stephens, 1853: 66. Ontario
wayah Traver, 1932: 172. North Carolina
wilsoni Mayo, 1952: 100. British Columbia
cascadia Allen and Edmunds, 1961: 611. Oregon
edmundsi Allen, 1959: 59. Oregon
heteroecaudata californica Allen and Edmunds, 1961: 607. California
heteroecaudata heteroecaudata McDunnough, 1929: 170. Wyoming
columbiella McDunnough, 1935: 97. British Columbia
hystrix Traver, 1934: 212. Montana
spinosa Mayo, 1951: 122, not Morgan, 1911: 94. California
jacobi McDunnough, 1939: 49. British Columbia
orestes Allen and Edmunds, 1961: 611. Oregon
hecuba hecuba Eaton, 1884: pl. 40. Colorado
hecuba pacifica Allen and Edmunds, 1959: 57. Oregon
attenuata McDunnough, 1925: 42. Quebec
hirsuta Berner, 1946: 70. Florida
delantala Mayo, 1952: 94. California
margarita Needham, 1927: 114. Utah
lita Burks, 1949: 235. Illinois
simplex McDunnough, 1925: 41. Quebec
aestiva McDunnough, 1931: 64. Quebec
bicolor Clemens, 1913: 336. Ontario
bicoloroides McDunnough, 1938: 23. Nova Scotia
coxalis McDunnough, 1926: 186. Quebec
doris Traver, 1934: 208. North Carolina
funeralis McDunnough, 1925: 210. Quebec
iodi Mayo, 1952: 179. California
lutulenta Clemens, 1913: 335. Ontario
lineata Clemens, 1913: 336. Ontario
minimella McDunnough, 1931: 63. Quebec
prudentalis McDunnough, 1931: 40. Quebec
temporalis McDunnough, 1924: 73. Ontario
trineata Berner, 1946: 67. Florida
verisimilis McDunnough, 1930: 57. Quebec

Family TRICORYTHIDAE

SUBFAMILY LEPTOHYPHINAE

Leptohyphes Eaton, 1882: 208.

Tricorythodes Ulmer, 1920: 51.
albineatus Berner, 1946: 72. Florida
allectus (Needham, 1905: 47). New York
atratus (McDunnough, 1923: 39). Quebec
explicatus (Eaton, 1892: 11). Mexico
fallax Traver, 1935: 634. California
fictus Traver, 1935: 635. Oklahoma
minutus Traver, 1935: 636. Utah
fallacina McDunnough, 1939: 53. British Columbia
peridius Burks, 1953: 48. Illinois
stygiatus McDunnough, 1939: 267. Quebec
texanus Traver, 1935: 638. Texas

Superfamily CAENOIDEA

Family CAENIDAE

SUBFAMILY CAENINAE

Brachycercus Curtis, 1834: 122.
flavus Traver, 1935: 640. Louisiana
lacustris (Needham, 1918: 249). New York
pallidus (Ide, 1930: 218), not Tshernova, 1928: 114. Ontario
idei Lestage, 1931: 119, n.n. for pallidus Ide.
maculatus Berner, 1946: 76. Florida
nitidus (Traver, 1932: 139). North Carolina
prudens (McDunnough, 1931: 264). Saskatchewan

Caenis Stephens, 1835: 61.
amica Hagen, 1861: 55. Pennsylvania
delicata Traver, 1935: 647. Oklahoma
diminuta Walker, 1853: 584. Florida
forcipata McDunnough, 1931: 262. Ontario
gigas Burks, 1953: 53. Illinois
hilaris (Say, 1839: 43). Indiana
jocosa McDunnough, 1931: 260. Ohio
latipennis Banks, 1907: 14. Washington
TYPE LOCALITIES OF THE EPHEMEROPTERA

punctata McDunnough, 1931: 259. Quebec
ridens McDunnough, 1931: 256. Kansas
simulans McDunnough, 1931: 263. Ontario
tardata McDunnough, 1931: 260. Alberta

Family NEOPHEMERIDAE

SUBFAMILY NEOEPHEMERINAE

Neoephemera McDunnough, 1925: 168.
bicolor McDunnough, 1925: 168. Quebec
compressa Berner, 1956: 34. Florida
purpurea (Traver, 1931: 105). North Carolina
youngi Berner, 1953: 145. Georgia

Superfamily PROSOPISTOMATOIDEA

Family BAETISCIDAE

SUBFAMILY BAETISCINAE

Baetisca Walsh, 1862: 378.
bajkovi Neave, 1934: 166. Manitoba
callosa Traver, 1931: 57. West Virginia
carolina Traver, 1931: 51. North Carolina
thomsenae Traver, 1937: 61. North Carolina
escambiensis Berner, 1955: 2. Florida
gibbera Berner, 1955: 11. Florida
lacustris McDunnough, 1932: 214. Ontario
laurentina McDunnough, 1932: 214. Quebec
obesa (Say, 1839: 43). Indiana
rogersi Berner, 1940: 156. Florida
rubescens (Provancher, 1878: 127). Quebec

Superfamily EPHEMEROIDEA

Family POTAMANTHIDAE

SUBFAMILY POTAMANTHINAE

Potamanthus Pictet, 1845: 197.
diaphanus Needham, 1908: 193. New York
distinctus Traver, 1935: 280. Ohio
inequalis Needham, 1909: 74. New York
myops (Walsh, 1863: 207). Illinois
medius Banks, 1908: 259. Kansas
rufous Argo, 1927: 323. New York
verticis (Say, 1839: 42). Indiana
flaveola (Walsh, 1862: 377). Illinois
walkeri Ide, 1935: 119. Ontario
Family BEHNINGIIDAE

SUBFAMILY BEHNINGIIDAE

Dolania Edmunds and Traver, 1959: 46.

americana Edmunds and Traver, 1959: 46. South Carolina

Family EPHEMERIDAE

SUBFAMILY EPHEMERINAE

Ephemera Linnaeus, 1758: 546.

blanda Traver, 1932: 104. North Carolina
compar Hagen, 1875: 578. Colorado
guttulata Pictet, 1843: 135. North America
simulans Walker, 1853: 536. Quebec

natata (Walker, 1853: 551). Ontario
decora Walker, 1853: 537. North America

traverae Spieth, 1938: 5. Oklahoma
triplex Traver, 1935: 253. West Virginia
varia Eaton, 1883: 69. Maine

Hexagenia Walsh, 1863: 197.

atrocaudata McDunnough, 1924: 92. Ontario
bilineata (Say, 1824: 303). Minnesota
limbata limbata (Serville, in Guerin-Meneville, 1829: 34).

variabilis Eaton, 1883: 55.

limbata californica Upholt, 1937: 85. California
limbata occulta (Walker, 1853: 551). Ontario

mingo Traver, 1931: 597. West Virginia
limbata venusta Eaton, 1883: 54. Texas

pallens Traver, 1935: 271. Kansas

limbata viridescens (Walker, 1853: 551). Ontario

angulata Walker, 1853: 564. North America
munda affiliata McDunnough, 1927: 119. Ontario

weewa Traver, 1931: 605. Florida

kanuga Traver, 1937: 29. North Carolina

munda marilandica Traver, 1931: 599. Maryland
carolina Traver, 1931: 601. North Carolina

rosacea Traver, 1931: 607. North Carolina
munda munda Eaton, 1883: 53. North Carolina
munda orlando Traver, 1931: 608. Florida
recurvata Morgan, 1913: 395. New York

rigida McDunnough, 1924: 90. Ontario

Pentagenia Walsh, 1863: 196.

robusta McDunnough, 1926: 185. Ohio
vittigera (Walsh, 1862: 373). Illinois

quadripunctata Walsh, 1863: 198. Illinois
TYPE LOCALITIES OF THE EPHEMEROPTERA

Family POLYMITARCIDAE

SUBFAMILY POLYMITARCINAE
Ephoron Williamson, 1802: 71.
   album (Say, 1825: 305). Manitoba
   leukon Williamson, 1802: 71. New Jersey

SUBFAMILY CAMPSURINAE
Campsurus Eaton, 1868: 83.
   decoloratus (Hagen, 1861: 43). Mexico

Tortopus Needham and Murphy, 1924: 23.
   circumfluus Ulmer, 1942: 110. Texas
   incertus (Traver, 1935 :286).
   primus (McDunnough, 1924: 7). Illinois
   manitobensis (Ide, 1941: 155). Manitoba
   puella (Pictet, 1843: 145), nomen dubium. Louisiana
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GEOGRAPHICAL LIST OF TYPE LOCALITIES

ALABAMA

Stenonema alabamae Traver. July 4; Sheffield.
Stenonema smithae Traver. July 1; Spencers Mill, Tuscaloosa.

ALBERTA

Ameletus alticolus McDunnough. June 23; Blairmore.
Ameletus celer McDunnough. June 25; Glacier Creek, Crows Nest Pass.
Ameletus similior McDunnough. September 4; Jacques Lake, Jasper Park.
Ameletus sparsatus McDunnough. July 15; Blairmore.
Ameletus validus McDunnough. October 1; Banff.
Baetis akataleptos McDunnough. August 14; Medicine Hat.
Caenis tardata McDunnough. August 5; Lethbridge.
Centroptilum bifurcatum McDunnough. July 23; Waterton Lakes.
Centroptilum cibiturbatum McDunnough. August 20; Cameron Lake, Waterton Lakes.
Centroptilum quaesitum McDunnough. June 17; Medicine Hat.
Choroterpes albiannulata McDunnough. August 23; Medicine Hat.
Cinygma lyriformis McDunnough. July 30; Banff.
Cinygmula confusa McDunnough. August 1; Moraine Lake.
Cinygmula hyalina McDunnough. August 6; Moraine Lake.
Cinygmula tarda McDunnough. August 29; Banff.
Cloeon implicatum McDunnough. July 22; Waterton Lakes.
Cloeon inanum McDunnough. July 23; Waterton Lakes.
Cloeon ingens McDunnough. August 3; Nordegg.
Epeorus deceptivus McDunnough. September 5; Banff.
Epeorus albertae McDunnough. July 24; Waterton Lakes.
Epeorus grandis McDunnough. July 23; Waterton Lakes.
Ephemerella flavilinea McDunnough. July 26; Waterton Lakes.
Ephemerella infrequens McDunnough. July 14; Waterton Lakes.
Ephemerella norda McDunnough. July 14; Nordegg.
Ephemerella tibialis McDunnough. September 19; Banff.
Heptagenia adaequata McDunnough. June 25; Cowley.
Heptagenia simplicioides McDunnough. July 13; Waterton Lakes.
Heptagenia solitaria McDunnough. July 7; Waterton Lakes.
Isonychia sicca campestris McDunnough. August 6; Medicine Hat.
Paraleptophlebia bicornuta McDunnough. August 10; Bearberry Creek, near Sondre.
Paraleptophlebia heteroea McDunnough. July 25; Waterton Lakes.
Pseudocloeon futile McDunnough. August 18; Milk River.
Pseudocloeon rubrolaterale McDunnough. September 13; Milk River.
Pseudocloeon turbidum McDunnough. July 24; Waterton Lakes.
Rhithrogena doddsi McDunnough. July 6; Waterton Lakes.
Siphlonurus autumnalis McDunnough. August 28; Blairstown.
Siphlonurus inflatus McDunnough. August 31; Cameron Lake, Waterton Lakes.
Siphlonurus phyllis McDunnough. July 26; Banff.
Traverella albertana McDunnough. August 22; Medicine Hat.

ARIZONA
Ameletus falsus McDunnough. June 14; Greer.
Baetis erebus Traver. May 3; Santa Catalina Mts., Bear Canyon.
Callibaetis signatus Banks. July 24; Williams.
Cinygmula par Eaton. No date; “Arizona.”
Isonychia intermedia Eaton. No date; “Arizona.”
Thraulodes arizonicus McDunnough. June 15; Oak Creek Canyon, near Flagstaff.
Thraulodes speciosus Traver. July 3; Rustler Park, Chiracahua Mts.

ARKANSAS
Siphlonurus marshalli Traver. April 6; Imboden.

BRITISH COLUMBIA
Ameletus celeroides McDunnough. June 22; Penticton.
Ameletus connectina McDunnough. August 6; Blue Lake, W. of Lytton.
Ameletus connectus McDunnough. May 5; Shingle Creek, Penticton.
Ameletus monta Mayo. August 29; McGuigan Creek, Paine Mtn. near New Denver.
Ameletus querulus McDunnough. July 20; Trepanier Creek, Peachland.
Ameletus suffusus McDunnough. May 3; Shingle Creek, Penticton.
Ameletus tuberculatus McDunnough. August 4; Blue Lake, W. of Lytton.
Ameletus vancouverensis McDunnough. May 1; Courtney.
Ameletus vernalis McDunnough. April 27; Oliver.
Baetis insignificans McDunnough. June 28; Seton Lake Creek, Lillooet.
Baetis jesmondensis McDunnough. September 12; Jesmond, Porcupine Creek.
Baetis persecuta McDunnough. August 7; Kwieek Cr., near Lytton.
Cinygmula gartrelli McDunnough. May 23; Deep Creek, Peachland.
Cinygmula kootenai McDunnough. June 13; Nixon Creek, Kootenay River, Kootenay National Park.
Cinygmula uniformis McDunnough. October 4; Shingle Creek, Penticton.
Ephemerella autumnalis McDunnough. September 8; Shingle Creek Road, Keremeos.
Ephemerella columbiella McDunnough. July 4; Trepanier Creek, Peachland.
Ephemerella ingens McDunnough. June 5; Oliver.
Ephemerella jacobi McDunnough. August 7; Kwieek Cr., near Lytton.
Ephemerella wilsoni Mayo. September 3; Wilson Creek, near New Denver.
Epeorus dulciana McDunnough. July 3; Trepanier Creek, Peachland.
Epeorus flavipennis Traver. May 5; Summerland.
Paraleptophlebia invalida McDunnough. June 23; Departure Bay.
Paraleptophlebia temporalis McDunnough. June 11; Alta Lake, Mons.
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Parameletus columbiae McDunnough. August 10; Dunn Peak, N. Thompson River.
Rhithrogena virilis McDunnough. June 27; Faulder, near Summerland.
Siphlonurus columbianus McDunnough. May 1; Agassiz.

CALIFORNIA

Ameletus amador Mayo. May 23; Dry Creek near Dry Town.
Ameletus dissitus Eaton. No date; "California."
Ameletus facilis Day. April 22; Sage Creek, Napa County.
Ameletus shepherdi Traver. No date; Waddell Creek, Rancho del Oso.
Apobaetis indeprensus Day. August 14; Stanislaus Co., Tuolumne River, 6 mi. east of Modesto.
Baetis adonis Traver. June 3; San Gabriel Mts.
Baetis allius Day. October 15; Sonoma Co., Russian River, near Geyserville.
Baetis devinctus Traver. No date; Waddell Creek, Rancho del Oso.
Baetis diablus Day. April 12; Diablo Mt., Contra Costa County.
Baetis leechi Day. September 24; Conn Creek, near Rutherford, Napa County.
Baetis palisadi Mayo. July 5; Big Pine Creek, Sierra Nevada Mtns., Inyo Co.
Baetis piscatoris Traver. No date; Waddell Creek, Rancho del Oso.
Baetis sulfurosus Day. August 24; Sulphur Creek, Sonoma County.
Callibaetis californicus Banks. No date; Southern California.
Callibaetis carolus Traver. August 24; Big Bear Lake, San Bernardino Mts.
Callibaetis hebes Upholt. October 6; Alpine Dam, Marin Co.
Callibaetis pacificus Seemann. No date; Andreas and Palm Canyons on east side of San Jacinto Mtns., Tahquitz Valley.
Callibaetis traversae Upholt. No date; Kingsburg, Fresno County.
Centroptilum asperatum Traver. August 29; Big Bear Lake, San Bernardino Mts.
Centroptilum venosum Traver. June 24; San Gabriel Canyon, San Gabriel Mts.
Choroterpes terratoma Seemann. March 25; Andreas Canyon, near Palm Springs.
Cinygmula tioga Mayo. August 21; Leevining Creek, Sierra Nevada Mtns., Mono Co.
Edmundsius agilis Day. July 20; Willow Creek, Madera County.
Epeorus lagunitas Traver. July 1; Lake Lagunitas.
Epeorus sancta-gabriel Traver. June 7; San Gabriel Mts.
Epeorus californicus Banks. No date; Claremont.
Epeorus lepidus Traver. May 10; Silver Canyon, White Mts.
Ephemera cognata Traver. No date; Waddell Creek, Rancho del Oso.
Ephemera delantalata Mayo. June 23; Martis Creek near Truckee, Placer Co.
Ephemera euterpe Traver. No date; Waddell Creek, Rancho del Oso.
Ephemera glacialis carsona Day. July 3; Hangmans Bridge, East Fork Carson River, Alpine County.
Ephemera heterocephala californica Allen and Edmunds. June 19; Chilacaoot Creek 1 mi. above Bass Lake.
Ephemera levis Day. June 14; Capell Creek, Napa County.
Ephemerella iodii Mayo. June 2; Dry Creek near Dry Town.
Ephemerella maculata Traver. June 9; San Gabriel Canyon, San Gabriel Mts.
Ephemerella Micheneri Traver. June 25; San Gabriel Canyon, San Gabriel Mts.
Ephemerella mollitia Seemann. No date; San Antonio, San Dimas and Tahquitz Valley and Cucamonga Canyons, March 22, 30, and September 16.
Ephemerella pelosa Mayo. June 15; North Fork Creek above Bass Lake, Fresno Co.
Ephemerella proserpina Traver. April 2; Mill Creek Canyon, San Bernardino Mts.
Ephemerella sierra Mayo. August 28; South Fork Bishop Creek, Inyo Co.
Ephemerella soquele Day. July 14; Willow Creek, Madera County.
Ephemerella spinosa Mayo. July 4; South Fork Bishop Creek, Inyo County.
Ephemerella teresa Traver. May 29; San Antonio Canyon.
Ephemerella yosemite Traver. February 8; Merced River, Yosemite Valley.
Heptagenia kennedyi McDunnough. No date; Calistoga, Napa Co.
Heptagenia rubroventris Traver. June 28; San Gabriel Canyon, San Gabriel Mts.
Hexagenia limbata californica Upholt. June 30; Kingsburg, Fresno Co.
Isonychia velma Needham. December; Putah Creek near Maticello.
Paracleodes abditus Day. August 7; Tuolumne River, Stanislaus County, about 3 mi. east Shiloh Bridge.
Paraleptophlebia associata McDunnough. No date; Frys Harbor, Santa Cruz.
Paraleptophlebia cachea Day. April 19; Cache Creek, Yolo Co., 6 mi. north Rumsey.
Paraleptophlebia californica Traver. No date; Waddell Creek, Rancho del Oso.
Paraleptophlebia clara McDunnough. No date; Los Gatos.
Paraleptophlebia compar Traver. No date; Waddell Creek, Rancho del Oso.
Paraleptophlebia helena Day. October; Mill Creek, Venado Road, Sonoma Co.
Paraleptophlebia memorialis Eaton. No date; Truckee, Sierra Nevada Mts.
Paraleptophlebia pallipes Hagen. No date; Truckee, Sierra Nevada Mts.
Paraleptophlebia placeri Mayo. May 12; Dry Creek near Dry Town.
Paraleptophlebia quisquilia Day. May 28; Middle Creek, Lake County.
Paraleptophlebia zayante Day. October; Zayante Creek, Santa Cruz County.
Rhithrogena brunnea Hagen. No date; Truckee.
Rhithrogena decora Day. July 12; Hat Creek, Shasta County.
Rhithrogena petulans Seemann. San Dimas, Cucamonga, Evey and Palmer.
Siphlonurus maria Mayo. May 26; Jesus Maria Creek, Jesus Maria.
Siphlonurus spectabilis Traver. No date; Waddell Creek, Rancho del Oso.
Tricorythodes fallax Traver. July; Waddell Creek, Rancho del Oso.

COLORADO
Ameletus aequivous McDunnough. June 25; Gunnison River, near Almont, 8,000 ft.
Ameletus subnotatus Eaton. No date; "Colorado."
Ameletus velox Dodds. July; Tolland.
Baetis bicaudatus Dodds. August; Tolland.
Baetis intermedius Dodds. August; Tolland.
Baetis minimus Dodds. August; Tolland.
Baetis moffatti Dodds. August; Tolland.
Baetis parvus Dodds. July; Tolland.
Baetis quilleri Dodds. July; Boulder.
Baetis tricaudatus Dodds. August; Tolland.
Callibaetis americanus Banks. April; Clear Creek.
Callibaetis coloradensis Banks. June; Durango.
Callibaetis doddsi Traver. July; Tolland.
Callibaetis fuscus Dodds. July; Tolland.
Callibaetis nigritus Banks. May; Boulder.
Callibaetis pallidus Banks. May; Boulder.
Cinygmula mimus Eaton. No date; Manitou.
Cinygmula ramaleyi Dodds. August; Tolland.
Cinygmula tollandi Dodds. July; Tolland.
Epeorus longimanus Eaton. No date; “Colorado.”
Epeorus proprius Traver. No date; probably South Boulder Valley.
Ephemerella compar Hagen. No date; Foot Hills.
Ephemerella coloradensis Dodds. July; Tolland.
Ephemerella grandis Eaton. No date; “Colorado.”
Ephemerella hecuba Eaton. No date; Manitou.
Ephemerella inermis Eaton. No date; Arkansas Canyon, Denver.
Heptagenia coxalis Banks. No date; Clear Creek.
Heptagenia elegantula Eaton. No date; Arkansas Canyon.
Rhithrogena flavianula McDunnough. June; Gunnison.
Rhithrogena robusta Dodds. July 21; Tolland.
Siphlonurus occidentalis Eaton. No date; “Colorado.”

DISTRICT OF COLUMBIA

Baetis unicolor Hagen. No date; Washington.
Cloeon vicinum, Hagen. No date; Washington.
Stenonema modestum Banks. September; Washington.
Stenonema pudicum Hagen. No date; Washington.

FLORIDA

Baetis spiethi Berner. May 21; Alachua Co., Santa Fe River at Poe Springs.
Baetisca escamensis Berner. October 23; Escambia County, Escambia, River.
Baetisca gibbera Berner. October 23; Escambia County, Escambia River.
Brachycercus maculatus Berner. February 28; Alachua Co., Santa Fe River at Poe Springs.
Caenis diminuta Walker. No date; St. Johns Bluff, E. Florida.
Callibaetis floridanus Banks. No date; Biscayne Bay.
Centroptilum hobbsi Berner. May 21; Alachua Co., Santa Fe River at Poe Springs.
Centroptilum viridocularis Berner. June 24; Alachua Co., Hatchet Creek.
Choroterpes hubbelli Berner. April 21; Alachua Co., Jerome Sink, 2.5 miles north of Newberry.
Ephemerella choctawhatchee Berner. May 14; Alachua Co., Santa Fe River at Poe Springs.
Ephemerella hirsuta Berner. May 31; Okaloosa Co., 5.1 miles west of Walton County line at Hwy. 10.
Ephemerella trilineata Berner. April 2; Alachua Co., Santa Fe Lake.
Habrophlebiodes brunneipennis Berner. April 18; Alachua Co., Devils Mill Hopper.
Hexagenia orlando Traver. May 20; Orlando.
Hexagenia weewa Traver. April 8; Chipola Lake, near Weewa-hitchka.
Neoephemera compressa Berner. March 14; Withlacoochee River.
Pseudocloeon alachua Berner. April 12; Alachua Co., Blue Springs.
Pseudocloeon bimaculatus Berner. July 1; Jackson Co., Blue Springs Creek at Marianna.
Tricorythodes albilineatus Berner. May 14; Alachua Co., Santa Fe River at Poe Springs.

GEORGIA

Baetis ephippiatus Traver. June 1; Mossy Creek, Ft. Valley.
Ephemerella berneri Allen and Edmunds. April 21; Flat Shoals, Flint River, Concord, Pike Co.
Heptagenia dolosa Traver. July 4; Chattahoochee River.
Homoeoneuria dolani Edmunds, Berner and Traver. October 20; Savannah River.
Isonychia circe Traver. August 8; Chattahoochee River.
Isonychia fattigi Traver. May 25; Swamp Creek, Dalton.
Isonychia georgiae McDunnough. July; Rabun Co.
Isonychia pictipes Traver. May 31; Williamson Swamp Creek, Bartow.
Neoephemera youngi Berner. April 5; Decatur Co., Mosquito Creek.
Paraleptophlebia bradleyi Needham. December 21; Billys Lake, Okefenokee Swamp.
Paraleptophlebia georgiana Traver. June; Swamy Creek near Dalton.
Pseudiron meridionalis Traver. No date; Chattahoochee River.
Pseudocloeon etowah Traver. August 18; Etowah River, Rome.
Siphloplecton speciosum Traver. April 16; Echeconee Creek.

GUATEMALA

Callibaetis montanus Eaton. No date; Aceytuno plantation near Guatemala City.

IDAHO

Heptagenia rodocki Traver. July 20; Lewiston.

ILLINOIS

Acanthametropus pecatonica Burks. July 6; Sugar River, ¼ mi. above mouth, near Harrison.

1 All species described by Walsh were probably collected near Rock Island.
Anepeorus simplex Walsh. No date; “Illinois.”
Baetis anachris Burks. June 13; Havana, White Oak Creek near Natanzas Lake.
Baetis baeticatus Burks. June 11; Wichert.
Baetis cleptis Burks. September 15; Detroit.
Baetis elachistus Burks. October 20; Duncans Mills, Spoon River.
Baetis hartii McDunnough. July 11; Urbana.
Baetis herodes Burks. April 9; Herod, Gibbons Creek.
Baetis ochris Burks. June 4; Richmond.
Baetis pallidulus McDunnough. May 24; Muncie.
Baetis phyllis Burks. April 16; Vandalia.
Baetis propinquus Walsh. No date; “Illinois.”
Caenis gigas Burks. August 6; Giant City State Park.
Callibaetis furrugeius Walsh. No date; “Illinois.”
Callibaetis fluctuans Walsh. No date; “Illinois.”
Cloeon mendax Walsh. No date; “Illinois.”
Ephemerella consimilis Walsh. No date; “Illinois.”
Ephemerella excrucians Walsh. No date; “Illinois.”
Ephemerella frisoni McDunnough. June 9; Oakwood.
Ephemerella lita Burks. May 22; Oakwood.
Ephemerella ora Burks. April 22; Mt. Carmel.
Heptagenia cruentata Walsh. No date; “Illinois.”
Heptagenia diabasia Burks. June 29; Rockford.
Heptagenia flavescens Walsh. No date; “Illinois.”
Heptagenia maculpennis Walsh. No date; “Illinois.”
Heptagenia manifesta Eaton. No date; Rock Island.
Heptagenia patoka Burks. July 19; Patoka.
Isonychia sayi Burks. No date; Rock Island.
Isonychia sicca sicca Walsh. No date; Rock Island.
Leptophlebia odonatus Walsh. No date; Rock Island.
Paraleptophlebia sticta Burks. April; Watson.
Pentagenia quadrupunctata Walsh. No date; “Illinois.”
Pentagenia vittigera Walsh. No date; “Illinois.”
Potamanthus flaveola Walsh. No date; “Illinois.”
Potamanthus myops Walsh. No date; “Illinois.”
Pseudocloeon dubium Walsh. No date; “Illinois.”
Pseudocloeon myrsum Burks. May 16; Eddyville, Lusk Creek.
Pseudocloeon veteris McDunnough. May 13; Urbana.
Siphloplecton interlineatum Walsh. No date; Rock Island.
Stenonema areion Burks. June 25; Oakwood.
Stenonema ares Burks. June 11; Rockford.
Stenonema integrum McDunnough. August 27; Alton.
Stenonema lepton Burks. June 22; Momence.
Stenonema metriotes Burks. July 3; East Dubuque.
Stenonema pulchellum Walsh. No date; “Illinois.”
TYPE LOCALITIES OF THE EPHEMEROPTERA

Stenonema terminatum Walsh. No date; "Illinois."
Tortopus primus McDunnough. August 14; Grand Tower.
Tricorythodes peridius Burks. August 6; Wilmington.

INDIANA
Baetisca obesa Say. No date; "Indiana."
Caenis hilaris Say. September 4; "Indiana."
Epeorus namatus Burks. April 25; Leonard Springs, near Bloomington.
Ephemerella argo Burks. May 7; White River, Rogers.
Ephemerella bispina Needham. June 18; Elkhart.
Emphemerella unicornis Needham. June 18; Elkhart.
Isonychia arida Say. No date; "Indiana."
Potamanthus verticis Say. August; "Indiana."

IOWA
Centroptilum walshi McDunnough. July 23; Clinton.
Heptagenia persimplex McDunnough. June 22; Pleasant Valley, near Davenport.
Isonychia rufa McDunnough. July 7; Davenport.

KANSAS
Caenis ridens McDunnough. July; Lawrence.
Callibaetis centralis Peters. October 21; Douglas Co., University of Kansas Natural History Reservation.
Hexagenia pallens Traver. Summer; Manhattan.
Potamanthus medius Banks. July; Douglas County.
Pseudiron centralis McDunnough. June 26; Lawrence.

LOUISIANA
Brachycercus flavus Traver. June 20; Sabine River Ferry.

MAINE
Arthroplea bipunctata McDunnough. June 18; Wales.
Epeorus frisoni Burks. August 26; Mt. Katahdin at Roaring Brooks.
Ephemera varia Eaton. No date; Norway.
Ephemerella lata Morgan. No date; Sandy River.

MANITOBA
Baetis dardanus McDunnough. June 11; Aweme.
Baetis hudsonicus Ide. July 22; Churchill.
Baetis spinosus McDunnough. July 16; Darlingford.
Baetisca bajkovi Neave. No date; Sturgeon Falls, Pigeon River, near Lake Winnipeg.
Callibaetis semicostatus Banks. September 16; Stony Mtn.
Centroptilum infrequens McDunnough. September 30; Aweme.
Ephoron album Say. No date; Winnipeg.
Heptagenia inconspicua McDunnough. June 14; Aweme.
Heptagenia reversalis McDunnough. June 22; Aweme.
Siphloplecton basale Walker. No date; Lake Winnipeg.
Tortopus manitobensis Ide. August 2; Assiniboine River, Cartier.

MARYLAND
Hexagenia munda marilandica Traver. June 3; Conococheague Park, Washington Co.

MASSACHUSETTS
Paraleptophlebia praepedita Eaton. No date; Denham.
Siphlonurus novangliae McDunnough. June 17; Brookline.
Siphlonurus rapidus McDunnough. June 10; North Reading.
Siphlonurus typicus Eaton. No date; Denham.
Stenonema interpunctatum frontale Banks. August; Middlesex Falls.

MEXICO
Campsurus decoloratus Hagen. No date; Matamoras, Tamaulipas.
Choroterpes inornata Eaton. No date; Northern Sonora.
Tricorythodes explicatus Eaton. No date; Northern Sonora.

MICHIGAN
Baetis hiemalis Leonard. October 3; Crawford County at Au Sable River.

MINNESOTA
Callibaetis brevicostatus Daggy. September 22; small pond near Carvers Lake, Ramsey County.
Centroptilum bistrigatum Daggy. September 28; Mississippi River, Fridley.
Hexagenia bilineata Say. No date; Minnesota River.
Pseudocloeon anoka Daggy. August 21; Coon Creek, Anoka Co.
Pseudocloeon elliotti Daggy. September 28; Mississippi River, Fridley.
Pseudocloeon ida Daggy. September 26; Mississippi River, Fridley.
Pseudocloeon minutum Daggy. July 7; Mississippi River, Coon Rapids.
Rhithrogena pellucida Daggy. July 1; Minneapolis.
Stenonema minnetonka Daggy. June 14; Mound.
Stenonema wabasha Daggy. July 7; Mississippi River, Wabasha.

MONTANA
Ameletus cooki McDunnough. August 7; Brackett Creek, near Bozeman.
Ephemera connecticata Traver. June 8; Railroad Creek, Glacier National Park.
Ephemera glacialis Traver. June 8; Glacier National Park, Midvale Creek.
Ephemera hystrix Traver. June 29; Blackfoot River, Potomac.
Ephemera spinifera Needham. June 20; Blackfoot River near Potomac.
Epeorus youngi Traver. August 15; Upper Kintla Lake, Glacier National Park.
Leptophlebia gravastellus Eaton. No date; "Montana."

NEVADA
Baetis parallelus Banks. No date; Reno.
Rhithrogena morrisoni Banks. No date; Reno.
TYPE LOCALITIES OF THE EPHEMEROPTERA

NEWFOUNDLAND
Leptophlebia hebes Walker. No date; "Newfoundland."
Leptophlebia ignava Hagen. No date; Madrid (?)

NEW HAMPSHIRE
Leptophlebia johnsoni McDunnough. June 21; Jaffrey.
Siphlonurus mirus Eaton. No date; "New Hampshire."

NEW JERSEY
Ephoron leukon Williamson. No date; Passaic River, Bellville.
Habrophlebiodes americana Banks. No date; Passaic.

NEW MEXICO
Ametropus albrighti Traver. October 14; San Juan River, near Farmington.
Rhithrogena undulata Banks. May 25; Jemez Springs.

NEW YORK
Ameletus ludens Needham. May 22; Newport, headwaters of small stream, 900 ft. elev., Hasenclever Hills.
Brachycercus lacustris Needham. No date; Oneida Lake.
Caenis allecta Needham. July; Fall Creek, Ithaca.
Caenis anceps Traver. July 15; Varna.
Callibaetis skokianus Needham. No date; Bone Pond, Saranac Inn.
Choroterpes ferruginea Traver. August; Wintergreen Point, Old Forge.
Epeorus confusus Traver. May 20; Slaterville.
Epeorus fragilis Morgan. May 9: Coy Glen Brook, Ithaca.
Epeorus fraudator Traver. May 7; Ringwood.
Epeorus pleuralis Banks. No date; Gloversville.
Epeorus tenuis Traver. June 24; Ringwood.
Epeorus humeralis Morgan. May 25 to July 25; Fall Creek.
Ephemerella cornuta Morgan. July 20, 21; Fall Creek, Ithaca.
Ephemerella deficiens Morgan. First half of May; Fall Creek, Ithaca.
Ephemerella dorothea Needham. No date; Beaver Meadow Brook, Old Forge.
Ephemerella lata Morgan. June 20, 24; Fall Creek, Ithaca.
Ephemerella rotunda Morgan. June 8, 10; Pleasant Brook, Ithaca.
Ephemerella serrata Morgan. June 3, 12, 14; upper Fall Creek, Ithaca.
Ephemerella tuberculata Morgan. June 22; upper Fall Creek, Ithaca.
Habrophlebia vibrans Needham. July 1; Bald Mt. Pond, Old Forge.
Habrophlebiodes betteni Needham. July 1; Hamburg.
Hexagenia recurvata Morgan. No date; "New York."
Isonychia albomanicatus Needham. July 12; Old Forge.
Isonychia christina Traver. July 24; Ithaca.
Isonychia harperi Traver. September 2–3; Ft. Jackson, St. Regis River.
Isonychia matilda Traver. August; Wild Flower Preserve, Slaterville.
Isonychia sadleri Traver. June 12; Fish Hatchery on Cascadilla Creek.
Paraleptophlebia mollis Eaton. No date; West Farm.
Potamanthus diaphanus Needham. No date; Squaw Island, Niagra River, Buffalo.
Potamanthus inequalis Needham. June 29; Schenectady.
Potamanthus neglectus Traver. July 2; Ithaca.
Potamanthus rufous Argo. July 8; Corning.
Rhithrogena amica Traver. May 15; Ellis Hollow, Ringwood Creek.
Siphlonisca aerodromia Needham. June 29; Sacandaga Park, Johnstown.
Siphlonurus annulata Walker. No date; Trenton Falls.
Siphlonurus barbarus McDunnough. June 9; Big Indian Valley, Catskill Mtns.
Siphlonurus noveboracana Lichtenstein. No date; “New York.”
Siphlonurus triangularis Clemens. June 5–18; Ithaca.
Stenonema femoratum tripunctatum Banks. No date; Westfield.
Stenonema ithaca Clemens. June 24; Ithaca.
Stenonema majus Traver. July 16; Cascadilla Creek, Ithaca.
Stenonema placitum Banks. June 12; Sport Island, Sacandaga River.
Stenonema proximum Traver. June 13; near White Church.

NORTH AMERICA

Ephemera decorata Walker. No date; “Canada.”
Ephemera guttulata Pictet. No date; “North America.”
Hexagenia angulata Walker. No date; “Canada.”

NORTH CAROLINA

Ameletus lineatus Traver. February 20; Big Alamance Creek.
Baetis amplus Traver. March 12; Big Alamance Creek.
Baetis australis Traver. April 11; Goshen Swamp.
Baetisca carolina Traver. March 30; Big Alamance Creek.
Baetisca thomsenae Traver. June 5; Valle Crucis, Crabapple Creek.
Brachycercus nitidus Traver. July 2; Rock Broad River.
Cinygmula subaequalis Banks. May; Black Mtn., North Fork of Swannanoa River.
Epeorus dispar Traver. July 25; Allens Creek, near Hazelwood.
Epeorus rubidus Traver. June 16; Flta Creek at Black Mountain.
Epeorus subpallidus Traver. June 20; Cedar Creek near Glenville.
Ephemerella blanda Traver. July 19; French Broad River at Penrose.
Ephemerella carolina Bener and Allen. August 6; Macon Co., Buck Creek.
Ephemerella cherokee Traver. July 25; Cedar Creek near Glenville.
Ephemerella conestee Traver. August 2; Tributary of Pigeon River.
Ephemerella doris Traver. May 6; Uharie River near Farmer.
Ephemerella inconstans Traver. March 15; Hamburg Lake.
Ephemerella longicornis Traver. July 14; Cedar Creek, near Glenville.
Ephemerella vernalis Banks. No date; Black Mtn., N. Fork of Swannanoa River.
Ephemerella wayah Traver. July 1; Wayah Creek near Franklin.
Habrophlebia jocosa Banks. May; Asheville, Black Mtns., N. Fork of Swannanoa River.
Habrophlebia pusilla Traver. May 14; Cascades near Danbury, tributary of Dan River.
TYPE LOCALITIES OF THE EPHEMEROPTERA

Heptagenia julia Traver. July 3; North Fork of Swannanoa River.
Heptagenia spinosa Traver. June 30; North Fork of Swannanoa River.
Heptagenia thetis Traver. May 4; Cascades, near Danbury.
Hexagenia carolina Traver. June 3; Hamburg Lake, 10 mi. N. of Greensboro.
Hexagenia kanuga Traver. May 16; Florence.
Hexagenia munda elegans Traver. August 15; Chowan River, near Winton, Hertford Co.
Hexagenia munda munda Eaton. No date; Chowan River, near Winton.
Hexagenia rosacea Traver. July 14; Penrose, near headwaters of French Broad River.
Isonychia annulata Traver. May 22; Big Alamance Creek.
Isonychia aurea Traver. July 26; tributary of Pigeon River.
Isonychia notata Traver. July 17; Bald Creek near Bald Creek, Yancy Co.
Isonychia obscura Traver. July 17; Penrose.
Isonychia pacoleta Traver. Pacolet River, near Tryon.
Isonychia serrata Traver. July 21; Allen Creek, near Waynesville.
Isonychia similis Traver. July 29; Cedar Creek near Glenville.
Isonychia thalia Traver. July 9; Davidson River.
Leptophlebia australis Traver. March 22; Lake near Liberty.
Leptophlebia collina Traver. April 7; Mirror Lake, near Highlands.
Leptophlebia grandis Traver. March 17; Scales Lake, on private estate near Greensboro.
Leptophlebia intermedia Traver. April 1; Tributary of Cape Fear River.
Leptophlebia gracilis Traver. April 28; Hamburg.
Neoeloeon alamance Traver. April 5; Big Alamance Creek.
Neoephemera purpurea Traver. June 30; Davidson River.
Paraleptophlebia assimilis Banks. May; Black Mtn., North Fork of Swannanoa River.
Paraleptophlebia swannanoa Traver. June 15; North Fork of Swannanoa River.
Pseudocloeon carolina Banks. May; Black Mtn.
Rhithrogena exilis Traver. June 14; North Fork of Swannanoa River.
Rhithrogena fasciata Traver. July 17; Waynesville.
Rhithrogena rubicunda Traver. June 5; Banners Elk.
Rhithrogena uhari Traver. May 13; Caraway Creek, Uharie Mtns.
Siphlonurus decorus Traver. April 11; Goshen Swamp.
Siphlonurus marginatus Traver. May 1; Lake near Liberty.
Siphloplecton signatum Traver. February 18; small lake near Liberty.
Stenonema affine Traver. April 23; Caraway Creek, Uharie Mtns.
Stenonema annexum Traver. April 11; Goshen Swamp.
Stenonema bellum Traver. July 19; French Broad River.
Stenonema carolina Banks. May; Black Mtn., North Fork of Swannanoa River.
Stenonema exiguum Traver. June 1; near Hamburg Lake.
Stenonema pallidum Traver. May 21; Cascades, near Danbury.
Stenonema varium Traver. April 5; Big Alamance Creek.

NORWAY
Metretopus borealis Eaton. July or August; between Kautokeim and Kraswando.
Metretopus norvegicus Eaton. September; South Norway.

NORTHWEST TERRITORY
Baetis foemina McDunnough. August 7; Lake Harbor.
Siphlonurus alternatus Say. No date; “Northwest Territory.”

NOVA SCOTIA
Ameletus tertius McDunnough. July 13; Baddeck Forks, Cape Breton Island.
Centroptilum victoriae McDunnough. June 19; Inhabitants River, Cape Breton Island at jct. of Victoria Highway.
Ephemerella bicoloroides McDunnough. July 3; Baddeck Forks, Cape Breton Island.
Leptophlebia concinna Walker. No date; “Nova Scotia.”
Leptophlebia pallipes Walker. No date; “Nova Scotia.”
Paraleptophlebia debilis Walker. No date; “Nova Scotia.”
Stenonema tesselata Walker. No date; “Nova Scotia.”

OHIO
Caenis jocosa McDunnough. July 1–10; Put-in-Bay, South Bass Island.
Centroptilum rivulare Traver. August 6; Kirtland.
Leptophlebia cupida Say. May 15; Ohio River, Cincinnati.
Pentagenia robusta McDunnough. No date; Cincinnati.
Potamanthus distinctus Traver. July 1; Willoughby.
Stenonema candidum Traver. July 23; Willoughby.
Stenonema conjunctum Traver. August 24; Pleasant Valley.
Stenonema femoratum femoratum Say. No date; Cincinnati.
Stenonema gildersleevei Traver. August 31; Kirtland — in small stream from Gildersleeve Mtn.
Stenonema ohioense Traver. August 17; East Creek, near Painesville.

OKLAHOMA
Baetis endymion Traver. March 19; Johnston Co.
Caenis delicata Traver. April 2; Murray Co.
Choroterpes oklahoma Traver. March 20; Murray Co.
Ephemerula traverae Spieth. June 19; Flint.
Stenonema birdi Traver. February 28; Comanche Co.
Stenonema femoratum scitulum Traver. June 10; Latimer County.

ONTARIO
Baetis brunneicolor McDunnough. May 25; Cave Creek, Ottawa West.
Baetis curiousus McDunnough. August 22; Ottawa.
TYPE LOCALITIES OF THE EPHEMEROPTERA

Baetis flavistriga McDunnough. June 14; Rideau River.
Baetis intercalaris McDunnough. June 11; Rideau River.
Baetis nanus McDunnough. August 19; Ottawa.
Baetis phoebus McDunnough. May 25; West Ottawa
Baetisca lacustris McDunnough. July 3; Pelee Island.
Brachycercus pallidus Ide. September 5; Daventry.
Caenis forcipata McDunnough. June 19; Algonquin Park.
Caenis simulans McDunnough. July 21; Orillia.
Centroptilum album McDunnough. June 13; Silver Creek, Orillia.
Centroptilum convexum Ide. No date; Mad River, Hornings Mills.
Centroptilum fragile McDunnough. August 22; Rideau River.
Centroptilum semirufum McDunnough. August 6; Kearney.
Choroterpes fusca Spieth. September 1; Algoma.
Cloeon insignificans McDunnough. August 21; Ottawa.
Cloeon minor McDunnough. August 7; Joe Lake, Algonquin Park.
Cloeon rubropictum McDunnough. August 19; Ottawa.
Cloeon triangulifer McDunnough. June 29; Cornwall.
Ephemera natata Walker. No date; St. Martins Falls, Albany River, Hudson Bay.
Ephemera atrescens McDunnough. June 16; Ottawa, Rideau River.
Ephemera bicolor Clemens. No date; Go Home Bay, Georgian Bay.
Ephemera depressa Ide. No date; Hornings Mills.
Ephemera fuscata Walker. No date; St. Martins Falls. Albany River, Hudson Bay.
Ephemera invaria Walker. No date; St. Martins Falls, Albany River.
Ephemera lineata Clemens. July 1 to July 12; Go Home Bay.
Ephemera lulenta Clemens. May 29–June 19; Go-Home Bay.
Ephemera semifiava McDunnough. June 4; Tillsonburg.
Ephemera temporalis McDunnough. July 4; Ottawa.
Ephemera walkeri Eaton. No date; St. Martins Falls, Albany River, Hudson Bay.
Epeorus punctatus McDunnough. August 6; Ottawa.
Epeorus vitrea Walker. No date; St. Martins Falls, Albany River, Hudson Bay.
Heptagenia horrida McDunnough. June 11; St. Davids.
Heptagenia lucidipennis Clemens. August 23; Sandy Gray Falls, Go-Home River.
Heptagenia pulla Clemens. June 23 and July 6; shores of Island 4 mi. out in Georgian Bay.
Heptagenia walshi McDunnough. July 10; Walsh.
Hexagenia atrocaudata McDunnough. September 10; Ottawa.
Hexagenia limbata occulta (Walker). No date; Arctic America between Lake Winnipeg and Lake Superior.
Hexagenia limbata viridescens Walker. No date; St. Martins Falls, Albany River.

Hexagenia munda affiliata McDunnough. June 16–21; Sparrow Lake near Severn.

Hexagenia rigida McDunnough. July 21; Orillia.

Isonychia bicolor Walker. No date; St. Martins Falls, Albany River, Hudson Bay.

Leptophlebia nebulosa Walker. No date; St. Martins Falls, Albany River, Hudson Bay.

Paraleptophlebia ontario McDunnough. June 28; Jordan.

Paraleptophlebia strigula McDunnough. May 31; Dundas.

Parameletus croesus McDunnough. May 22; Ottawa.

Parameletus midas McDunnough. May 29; Ottawa.

Pseudocloeon chlorops McDunnough. August 16; Ottawa.

Pseudocloeon parvulum McDunnough. June 4; Tillsonburg.

Pseudocloeon punctiventris McDunnough. August 19; Rideau River.

Pseudocloeon virile McDunnough. June 7; Ottawa.

Potamanthus walkeri Ide. No date; Erindale.

Rhithrogena fusca Walker. No date; St. Martins Falls, Albany River.

Rhithrogena jejuna Eaton. No date; St. Martins Falls, Albany River.

Rhithrogena sanguinea Ide. June 5; Sheldon Creek, Dufferin County.

Siphlonurus luridipennis Burmeister. No date; St. Martins Falls, Albany River.

Siphlonurus securifer McDunnough. July 7; Joe Lake, Algonquin.

Siphloplecton flexus Clemens. May 23, 26, June 12; Station Island, Georgian Bay.

Stenonema bipundatum McDunnough. July 28; Queenston.

Stenonema fuscum Clemens. June 16; on Go-Home River just below Sandy Grey Falls.

Stenonema interpunctatum canadense Walker. No date; St. Martins Falls, Albany River.

Stenonema interpunctatum interpunctatum Say. No date; St. Martins Falls, Albany River.

Stenonema luteum Clemens. June 3; Station Island; June 30; Muskosh River.

Stenonema mediopunctatum McDunnough. July 10; Walsh.


OREGON

Ameletus exquisitus Eaton. No date, Mt. Hood.

Ameletus oregonensis McDunnough. March 19; Rock Creek, Philomath.

Baetis caurinus Edmunds and Allen. August 25; Alsea River, Oregon State Highway 34, 10 miles south of Alsea.

Centroptilum oreophilum Edmunds. May 22; Home Creek, Steens Mtns.

Cinygma dimicki McDunnough. May 1; Rock Creek, Philomath.

Cinygma integrum Eaton. No date; Mt. Hood.
Cinygmula reticulata McDunnough. May 10; Luckiamute River, Kings Valley.

Ephemerella edmundsi Allen. May 13; Benton Co., Woods Creek.
Ephemerella flavitincta McDunnough. May 6; Luckiamute River, Hoskins.
Ephemerella cascadia Allen and Edmunds. August 30; Clackamas Co., branch of Still Creek, Timberline Lodge Road, Mt. Hood.
Ephemerella hecuba pacifica Allen and Edmunds. August 25; Lane Co., Cape Creek near Sealion Point.
Ephemerella orestes Allen and Edmunds. August 27; Clackamas Co., East Fork Hood River, Mt. Hood.
Epeorus arctus Traver. September 9; Winchuch River, Brookings.
Epeorus geminatus Eaton. No date; Mt. Hood.
Epeorus nitidus Eaton. No date; Mt. Hood.
Epeorus permagnus Traver. August 20; Cloud Cap Inn, Mt. Hood.
Heptagenia otiosa McDunnough. July 7; Maupin.
Heptagenia rosea Traver. July 21; Gold Hill.
Leptophlebia pacifica McDunnough. April 8; Corvallis.
Leptophlebia vibex Traver. April 16; Corvallis.
Paraleptophlebia falcula Traver. July 4; Corvallis.
Paraleptophlebia gregalis Eaton. No date; Mt. Hood.
Paraleptophlebia rufivenosa Eaton. No date; Mt. Hood.
Paraleptophlebia sculleni Traver. May 31; Corvallis.
Paraleptophlebia vaciva Eaton. No date; Mt. Hood.

**Pennsylvania**
Baetis posticatus Say. May 21; Shippingsport.
Caenis amica Hagen. No date; “Pennsylvania.”
Choroterpes basalis Banks. July; Montgomery County.

**Quebec**
Ameletus browni McDunnough. August 11; Mt. Lyall, Gaspe Co.
Baetis cingulatus McDunnough. June 20; Covey Hill.
Baetis frivolus McDunnough. June 25; Wakefield.
Baetis frondalis McDunnough. July 8; Laprairie.
Baetis incertains McDunnough. July 2; Covey Hill.
Baetis levitans McDunnough. June 25; Covey Hill.
Baetis macdunnoughi Ide. June 24; Masham Mills.
Baetis pluto McDunnough. June 27; Covey Hill.
Baetis pygmaeus Hagen. No date; St. Lawrence River.
Baetis rusticans McDunnough. June 24; Covey Hill.
Baetis vagans McDunnough. June 17; Covey Hill.
Baetisca laurentina McDunnough. June 6; Lachine.
Baetisca rubescens Provancher, No date; “Quebec.”
Caenis punctata McDunnough. July 15; Hemmingford.
Centroptilum bellum McDunnough. July 16; Broadview, vicinity of Hull.
Centroptilum caliginosum McDunnough. August 6; Lachine.
Centroptilum intermediale McDunnough. July 10; Marsh Creek, Sweetsburg.
Centroptilum ozburni McDunnough. July 16; Ottawa Golf Club.
Centroptilum similile McDunnough. June 25; Covey Hill.
Cloeon simplex McDunnough. August 14; Ottawa Golf Club.
Epeorus suffusus McDunnough. June 15; Ottawa Golf Club.
Ephemera simulans Walker. No date; St. Lawrence River.
Ephemerella aestiva McDunnough. July 12; Vaudreuil.
Ephemerella attenuata McDunnough. July 30; Ottawa Golf Club.
Ephemerella cornutella McDunnough. August 2; Knowlton.
Ephemerella coxalis McDunnough. June 20; Dorval.
Ephemerella fratercula McDunnough. June 30; Covey Hill.
Ephemerella funeralis McDunnough. June 23; Covey Hill.
Ephemerella inflata McDunnough. July 13; Wakefield.
Ephemerella minimella McDunnough. July 7; Knowlton.
Ephemerella molita McDunnough. August 17; Trinity Bay.
Ephemerella needhami McDunnough. July 8; Laprairie.
Ephemerella quebecensis Provancher. Quebec.
Ephemerella serratooides McDunnough. August 13; Knowlton.
Ephemerella simplex McDunnough. July 8; Laprairie.
Ephemerella sordida McDunnough. August 6; Lachine.
Ephemerella subvaria McDunnough. June 3; Cascades Point, St. Lawrence River.
Ephemerella verisimilis McDunnough. July 25; Bradore Bay.
Heptagenia aphrodite McDunnough. July 30; Ottawa Golf Club.
Heptagenia hebe McDunnough. July 12; Broadview, vicinity of Hull.
Heptagenia junco McDunnough. June 25; Covey Hill.
Heptagenia minerva McDunnough. July 16; Ottawa Golf Club.
Neoephemerla bicolor McDunnough. July 9; Laprairie.
Paraleptophlebia adoptiva McDunnough. May 21; Kazubazua.
Paraleptophlebia guttata McDunnough. June 25; Covey Hill.
Paraleptophlebia moerens McDunnough. June 10; Ottawa Golf Club.
Paraleptophlebia volitans McDunnough. July 26; Ottawa Golf Club.
Paraleptophlebia cingulatum McDunnough. July 10; Mid Yamaska River, Foster Power Plant.
Rhithrogena anomala McDunnough. June 22; Knowlton.
Rhithrogena brunneotincta McDunnough. June 28; Mt. Lyall, Gaspe Co.
Rhithrogena gaspeensis McDunnough. August 9, Mt. Lyall, Gaspe Co.
Rhithrogena impersonata McDunnough. June 20; Montreal.
Siphlonurus barbaroides McDunnough. June 14; Knowlton.
Siphlonurus berenice McDunnough. June 13; Cascades, Gatineau River.
Siphlonurus quebecensis Provancher. Quebec.
Stenonema interpunctatum heterotarsale McDunnough. July 2; Ottawa Golf Club.

Stenonema nepotellum McDunnough. July 15; Fulford, Knowlton region.

Stenonema rivulicolus McDunnough. May 30; Fairy Lake Creek, near Hull.

Stenonema rubrum McDunnough. July 31; Ottawa Golf Club.

Tricorythodes atratus McDunnough. August 6, Wakefield.

Tricorythodes stygiatus McDunnough. August 30; Cascades point, St. Lawrence River.

Saskatchewan

Anepeorus rusticus McDunnough. September 14; Saskatoon.
Brachycercus prudens McDunnough. September 9; Saskatoon.
Lachlania saskatchewanensis Ide. September 5; Stoney Lake, near Humbolt.

South Carolina

Dolania americana Edmunds and Traver. No date; Upper Three Runs, 15 mi. S. Aiken.
Heptagenia townesi Traver. June 2; Greenville.

Sweden

Baetis lapponica Bengtsson. August; Abisko River, Torne, Lappmark.
Cloeon dipterum Linnaeus. No date; "Sweden."
Ephemerella aurivillii Bengtsson. Dalarna, Lappland.
Parameletus chelifer Bengtsson. "Sweden."

Tennessee

Ephemerella spiculosa Berner and Allen. August 3; Green Co., Horse Creek Recreation Area.
Isonychia diversa Traver. June 30; Knoxville.
Isonychia tusculanensis Berner. June 4; Camp Creek, Green Co.

Texas

Callibaetis pictus Eaton. No date; "Texas."
Choroperpes manita Traver. June; Austin.
Hexagenia limbata venusta Eaton. No date; Dallas.
Isonychia sicca manca Eaton. No date; "Texas."
Tortopus circumflus Ulmer. June 30; "Texas."
Traverella presidiana Traver. August; Presidio.
Tricorythodes texanus Traver. July 2; Devils River.

Utah

Centroptilum selanderorum Edmunds. June 15; Brigham City.
Ephemerella angusta Traver. July 29; Provo River, near Deer Creek.
Ephemerella margarita Needham. No date; Provo River.
Lachlania powelli Edmunds. September 4; Green River at Hideout Canyon.
Paraleptophlebia packi Needham. No date; Junction North Fork and Main Fork of Ogden River.
Tricorythodes minutus Traver. July 22; Provo River.
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VIRGINIA

Callibaetis pretiosus Banks. September 11; Great Falls.
Heptagenia marginalis Banks. June 18; Great Falls.
Siphloplecton costalense Speith. April 17; Courtland.

WASHINGTON

Baetisca columbiana Edmunds; November 4; Franklin Co., Columbia River at Pasco.
Caenis latipennis Banks. June; Pullman.
Callibaetis tessellata Hagen. No date; Puget Sound.
Epeorus hesperus Banks. March 31; Pacoima. (Is this actually from California? G.F.E.)
Paraleptophlebia brunneipennis McDunnough. May 30; Rock Lake.

WEST VIRGINIA

Baetisca callosa Traver. August 18; Johnny Cake Run.
Ephemera triplex Traver. July 30; Marlinton.
Ephemerella allegheniensis Traver. August 13; Cacapon River.
Hexagenia mingo Traver. June 25; Millwood.

WISCONSIN

Baetis lasallei Banks. June 13; Milwaukee.
Stenonema femoratum tripunctatum Banks. No date; Milwaukee.

WYOMING

Baetis thermophilos McDunnough. September 3; Old Faithful Geyser, Yellowstone National Park.
Centroptilum elsa Traver. July 30; Moose.
Heptagenia criddlei McDunnough. August 30; Yellowstone National Park.
Rhithrogena futilis McDunnough. July 26; Gardiner River, Yellowstone National Park.
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