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## AN ANNOTATED LIST OF THE STONEFLIES OF OHIO (PLECOPTERA)

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While stoneflies constitute one of the smaller orders of insects, they are nevertheless one of the most important groups to both fisheries and sanitary biologists. In mountain streams, they are one of the principal sources of food for trout. Because of their preference for clean, well aerated water, they are becoming increasingly important to sanitary biologists as indicators of clean water conditions in pollutional surveys.

From 1950 to 1953, the author made extensive collections of stoneflies from many of the rivers and smaller streams in southern Ohio. Specimens in the insect museums of the Illinois Natural History Survey, Ohio State University, and Ohio University were also made available for study by the curators of those collections.

The first extensive list of the stonefly fauna of Ohio was published by Walker (1947). In that paper, he reported twenty-four species which he collected during his survey of the stoneflies of southeastern Ohio. In addition, he listed seven other species not taken in that region but reported for elsewhere in the state in publications of Needham and Claassen (1925), Claassen (1931), and Frison (1937, 1942). Seven other species are recorded for the state in publications of Claassen (1939) and Ricker (1952). Eighteen additional species are reported in this paper. Each of these species is indicated by an asterisk preceding the species name. The systematic arrangement followed in this paper is that of Ricker (1950, 1952).

The recorded distribution of each species in the state is given by counties. The names of collectors other than the writer are indicated by initials in parentheses following the county record. Two asterisks following a county name indicates that the writer as well as the collector cited has taken the species in that county. The dates following the lists of counties are the earliest and latest dates of observation or capture of adults of the species in Ohio. Specimens collected by the writer are in his personal collection; all other specimens are in the insect museums previously listed.

The following initials are used for collectors. The abbreviations following each collector's name indicate the location of the collections.

CHK—C. H. Kennedy (OSU)	LPR—L. P. Reynolds (OU)
CRN—C. R. Neiswander (OSU)	LRE—Lafe R. Edmunds (OSU)
DJB—D. J. Borrer (OSU)	LSR—L. S. Roach (INHS)
HHR—Herbert H. Ross (INHS)	PSS—P. S. Shurrager (OU)
HRD—H. R. Dodge (OSU)	RCO—R. C. Osborn (OSU)
HWS—Harold W. Smith (OU)	RPT—R. P. Thomas (OU)
JDW—John D. Walker (OU, INHS)	THF—T. H. Frison (INHS, OSU)
JCH—John C. Herron (OU)	THP—T. H. Parks (OSU)
JSC—J. S. Caldwell (OSU)	WER—William E. Ricker (INHS)
JNK—D. J. and J. N. Knull (OSU, INHS)	WCS—William C. Stehr (OU, INHS)
JSH—J. S. Hine (OU)	WPP—W. P. Porter (OU)
JTL—J. T. Lloyd (CU)	

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- INHS—Illinois Natural History Survey.  
 OSU —Collection of Department Zoology and Entomology, Ohio State University.  
 OU —Collection of Department Zoology, Ohio University.  
 CU —Cornell University Museum.

## LIST OF SPECIES

Family **Pteronarcidae**

1. *Pteronarcys dorsata* Say.  
Hamilton. December 18, 1952. Naiads only collected.
2. *Pteronarcys pictetii* Hagen.  
Reported for Ohio in Needham and Claassen (1925). No county given.

Family **Nemouridae**Subfamily **Nemourinae**

3. *Nemoura delosa* Ricker.  
Clark, Clifton (JNK), Clinton, Delaware (JNK), Greene, Miami, Montgomery. May 7 to July 1.
4. *Nemoura nigrilla* Provancher.  
Athens. Reported in Ricker (1952). April 25 to May 30.
5. \* *Nemoura varshava* Ricker.  
Clermont, Clinton, Hamilton. April 25 to May 30.
6. \* *Nemoura trispinosa* Claassen.  
Greene. June 7 to 11, 1953.
7. *Nemoura truncata* Claassen.  
Athens (JDW). April 25, 1941.
8. *Nemoura similis* Hagen.  
Athens (WCS, JDW).
9. *Nemoura venosa* Banks.  
Athens (WCS, JDW), Delaware (JNK), Franklin (JNK), Greene (JNK), Hocking (JNK, JDW), Tuscarawas (JDW), Vinton (JDW), Washington (WCS). April 25 to June 4.

Subfamily **Leuctrinae**

10. *Leuctra decepta* Claassen.  
Hocking\*\* (JDW), Montgomery (LRE). May 23 to June 28.
11. \* *Leuctra tenuis* Pictet.  
Hocking. June 28, 1953.
12. *Leuctra claasseni* Frison.  
Athens (WCS, JDW), Greene, Hamilton, Hocking (JDW), Tuscarawas (JDW), Vinton (JDW), Washington (WCS). March 27 to May 22.

Subfamily **Capniinae**

13. *Allocapnia forbesi* Frison.  
Athens (WCS), Butler, Clinton, Hamilton, Miami. January 4 to March 11.
14. *Allocapnia granulata* (Claassen).  
Athens (WCS), Butler, Clark\*\* (THF), Champaign, Clermont, Franklin (THF), Greene, Hocking (THF), Logan, Miami, Montgomery, Preble (THF). December 9 to March 10.
15. *Allocapnia pygmaea* (Burmeister).  
Athens (WCS, THF, JDW), Franklin (RCO), Hocking (THF). February 18 to March 6.
16. \* *Allocapnia recta* (Claassen).  
Clinton, Greene, Hocking (RCO), Logan, Miami, Montgomery. November 6 to March 29.
17. *Allocapnia rickeri* Frison.  
Athens (THF), Clermont, Greene, Miami, Muskingum (HHR), Montgomery. January 16 to March 6.
18. \* *Allocapnia nivicola* Fitch.  
Logan. January 19, 1953.
19. *Allocapnia viviparia* (Claassen).  
Athens (WCS, THF, JDW), Ashtabula (THF), Butler, Clark\*\* (THF), Clermont, Champaign, Clinton, Fairfield (THF), Franklin \*\* (HRD, THF), Greene, Hamilton\*\* (THF), Hocking\*\* (THF), Logan, Miami\*\* (THF), Montgomery, Preble (THF), Pickaway (THP), Shelby, Tuscarawas (JDW), Warren. November 2 to May 2.
20. *Allocapnia indianae* Ricker.  
Athens (THF), Hocking (THF), Scioto (WER). March 6 to 19.

21. *Allocaënia zola* Ricker.  
Hocking (THF, JNK). March 5 to 22.
22. *Capnia opis* Newman.  
Franklin (LSR), Hocking (JNK).
23. *Capnia vernalis* (Newport).  
Franklin (LSR).

Subfamily **Taeniopteryginae**

24. *Brachyptera fasciata* (Burmeister).  
Athens (WCS), Butler, Clark, Clermont, Franklin (RCO), Miami, Montgomery, Shelby, Warren. December 17 to March 16.
25. *Taeniopteryx maura* (Pictet).  
Athens (WCS, HWS, JDW), Butler, Champaign, Clark\*\* (THF), Clermont, Clinton, Franklin, (JSH, THF, HRD, LRE), Greene, Hocking (JNK, RCO, THF), Jefferson (THF), Logan\*\* (THF), Hamilton, Miami, Montgomery, Shelby, Warren. November 6 to March 29.

Family **Perlodidae**Subfamily **Isogeninae**

26. *Isogenus duplicatus* Banks.  
Athens (WCS, JDW), Hocking (JNK, JDW), Logan, Tuscarawas (JDW), Vinton (JDW).  
March 16 to May 22.

Subfamily **Isoperlinae**

27. *Isoperla bilineata* (Say).  
Athens (WCS, JDW), Butler, Franklin (RCO, 1899), Hamilton, Hocking\*\* (WCS, JDW), Licking (CRN), Miami, Montgomery, Tuscarawas (JDW). April 27 to July 11.
28. \**Isoperla burksi* Frison.  
Butler. April 28, 1953.
29. *Isoperla confusa* Frison.  
Athens (WCS, JDW), Clermont, Clinton, Hamilton, Miami, Shelby, Tuscarawas (JDW).  
January 9 to April 25. Adults taken only on April 25.
30. \**Isoperla decepta* Frison.  
Butler, Clermont, Clinton, Hamilton, Greene, Logan, Warren. April 7 to May 30.
31. *Isoperla minuta* (Banks).  
Champaign, Clark, Clinton, Darke, Franklin (RCO, JNK), Greene, Licking (RCO), Logan, Miami, Preble. April 10 to June 16.
32. \**Isoperla orata* Frison.  
Hocking, Logan. May 30 to June 28.
33. \**Isoperla transmarina* (Newman).  
Logan. May 19 to 22.
34. \**Isoperla clio* Newman.  
Greene (CHK). 1934.

Family **Chloroperlidae**Subfamily **Chloroperlinae**

35. *Alloperla imbecilla* (Say).  
Hamilton. Recorded from Cincinnati by Claassen (1939). No date given. Hocking (RCO). May 28, 1936.
36. \**Alloperla ideii* Ricker.  
Hocking. May 23, 1953.
37. \**Alloperla caudata* Frison.  
Hocking. June 28, 1953.
38. *Alloperla mediana* Banks.  
Logan. May 12, 1953.
39. *Hastaperla brevis* (Banks).  
Athens (JDW), Hocking\*\* (JNK, WCS), Logan. May 12 to 30.

Family **Perlidae**Subfamily **Perlinae**

40. *Neoperla clymene* (Newman)  
Athens (WCS), Adams (CRN), Butler, Clermont, Clinton, Franklin (CHK), Miami, Montgomery, Ottawa (CHK), Ross (CHK), Warren. May 2 to August 15.

41. *Neophasganophora capitata* (Pictet).  
Athens (JDW), Butler, Clark, Clermont, Clinton, Delaware (JNK), Franklin (CHK),  
Greene, Miami, Montgomery, Pickaway (JSC), Preble, Shelby, Warren. May 2 to July 23.
42. \**Paragnetina media* (Walker).  
Champaign, Miami. May 13 to June 4.
43. \**Perlinella drymo* (Newman).  
Butler. March 10, 1953.
44. \**Atoperla ephyre* (Newman).  
Butler, Licking (RCO). May 27 to June 7.
45. *Perlesta placida* (Hagen).  
Adams (CHK), Athens (WCS, RPT), Butler, Champaign, Clermont, Clinton, Clark,  
Delaware (JNK), Franklin (JNK, DJB), Greene\*\* (JNK), Hamilton, Hocking\*\* (JNK),  
Holmes (RPT), Knox (DJB), Logan, Lucas (WCS), Medina (JNK), Miami, Montgomery,  
Preble, Ross (CHK), Scioto (CHK), Shelby, Warren. March 21 to July 19.
46. \**Perlesta cinctipes* Banks.  
Butler, Clinton, Darke, Greene, Hamilton, Miami, Preble, Shelby. May 20 to June 17.

Subfamily **Acroneurinae**

47. *Acroneuria arida* (Hagen).  
Athens (WCS), Adams (CHK), Franklin (CHK), Greene (JNK), Holmes (RPT), Hocking  
(JDW), Ross (CHK), Ottawa (PSS, RCO, CHK). May 30 to July 7.
48. *Acroneuria abnormis* (Newman).  
Athens (WCS, JDW), Butler (RCO), Lawrence (RCO), Ross (CHK), Miami, Warren,  
Washington (LPR). May 30 to July 16.
49. *Acroneuria evoluta* Klapalek.  
Adams (CRN), Athens (JCH), Butler, Clark, Clermont, Clinton, Delaware (JNK), Darke,  
Greene, Hamilton, Hocking, Logan, Miami, Montgomery, Preble, Ottawa (RCO), Shelby,  
Warren. May 20 to August 30.
50. *Acroneuria filicis* Frison.  
Athens (WCS, JDW). April 25 to July 11.
51. \**Acroneuria internata* (Walker).  
Clermont, Franklin (RCO). March 1, 1952 and 1934 (RCO). Naiads only collected.
52. *Acroneuria lycorias* (Newman).  
Recorded from Ohio specimens in the Illinois Natural History Survey Collection by Frison.
53. *Acroneuria mela* Frison.  
Adams (JSH), Athens (JCH), Warren. June 26 to 28.
54. *Acroneuria perplexa* (Frison).  
Athens (WCS, JDW), Hocking\*\* (JDW). June 15 to July 23.
55. \**Acroneuria ruralis* (Hagen).  
Franklin (RCO), Hamilton (JTL). June 1 to July 12.
56. *Acroneuria xanthenes* (Newman).  
Athens (WCS, JDW), Hocking. May 2, 1953.

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