

A Distributional Study of the Caddisflies of Kentucky¹

VINCENT H. RESH²

Water Resources Laboratory, University of Louisville,
Louisville, Kentucky 40208

ABSTRACT

Distributional records and range of adult capture are presented for 175 species of caddisflies (Trichoptera), representing 15 families and 53 genera, collected in Kentucky. Most species belong to the families Hydropsychidae, Hydroptilidae, and Leptoceridae. Based on particle size preference in feeding, most species of Kentucky caddisflies should be classified either as predators or collectors, rather than as typical shredders of the family Limnephilidae. The paucity of nontemporary pool limnephilids, mainly in the subfamily Limnephilinae, may be related to the quality of allochthonous material in Kentucky streams. Immature and adult stages have been associated for 40 percent of the species of caddisflies from Kentucky. Life history features of several leptocerid and hydroptilid caddisflies are frequently characterized by multiple cohorts and a variety of behavioral mechanisms. The use of faunal collections in environmental assessments is recommended.

INTRODUCTION

Caddisflies have long been of interest to naturalists because of the unusual case building activity of the larvae and the striking color pattern of certain species in the adult stage. To the aquatic biologist, caddisflies are extremely important as indicators of water quality, and also as a major component in the diet of fishes. The distribution and morphology of several species of Trichoptera has also been used by systematists in analyzing zoogeographical patterns of dispersal and mechanisms of speciation.

There have been few studies of caddisflies that included specimens or records from Kentucky, and Ross (1944) listed only 46 species from the state. This was obviously a small percentage of the total caddisfly fauna when compared to the number of species then known from nearby midwestern states. Since then, descriptions of new species by Ross (1959), Ross and Yamamoto (1965), and Resh (1974) have included specimens from Kentucky in the type series. Etnier (1973) reported range extensions of three species into Kentucky,

and ecological studies by Minckley (1963) on Doe Run, Minshall (1968) on Morgans Creek, and Resh and Haag (1973) on the Salt River, have supplied additional distributional information.

ACKNOWLEDGMENTS

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¹ Contribution No. 172, (New Series) from the Department of Biology, University of Louisville, Louisville, Kentucky 40208.

² Present Address: Department of Biology, Ball State University, Muncie, Indiana 47306.

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THE CADDISFLY FAUNA

In this study, records are provided for 175 species that represent 15 families and 53 genera collected in Kentucky. This almost quadruples the number of species previously reported from the state (Ross 1944). The localities of these collections are indicated in Fig. 1.

The largest number of species (57) was collected in Spencer County. Although it is one of the smallest counties in the state, two of its streams, Brashears Creek and the Salt River, have been the subject of detailed biological investigations since 1967 (Neff and Krumholz 1973). In descending order, the following counties had the majority of caddisfly species: Breathitt Co., 41 species; Anderson Co., 32 species; Bell Co., 30 species; Johnson Co., 29 species; Fayette Co., 26 species; Rockcastle Co., 24 species; Jefferson Co., 20 species; Oldham, Trigg, and McCreary Cos., 19 species each. All other counties from which collections are known had fewer than 19 species.

The caddisfly fauna of Kentucky is extremely diverse. In areas where detailed studies have been made, large numbers of species have been collected. However, several areas in Kentucky have been entirely overlooked by collectors. From Fig. 1, it can be seen that the Licking River and Tygarts Creek drainages in Northern Kentucky, and the Green River drainage in Western Kentucky are gaps that must be filled before the distribution of Kentucky caddisflies can be described accurately.

In numbers of species, the present fauna of Kentucky is comparable to that reported from adjacent midwestern states (Ross 1944, Leonard and Leonard 1949, Etnier 1965, Unzicker et al. 1970, Longridge and Hilsenhoff 1973). With the exception of

the Sericostomatidae, all North American caddisfly families are represented. However, the small number of caddisfly records in the Limnephilidae is quite unusual. In most faunal studies, this is the dominant caddisfly family, contributing both the maximum number of species and a higher percentage of individuals than most of the other families. For example, in light trap collections from the Salt River basin in central Kentucky that extended from early spring through late fall, more than 87,000 adult specimens were collected, but only a single specimen, a *Limnephilus* female, belonged to the Limnephilidae.

The limnephilids reported in this study are typical of the species in this family that utilize the temporary pool and stream habitat, particularly the genera *Isonychia* and *Neophylax* (Clifford 1966, Wiggins 1973). It should also be noted that the largest subfamily, the Limnephilinae, is composed largely of *shredders*, that is, detritivores that decompose particles of vascular plant tissue larger than 1 mm (Cummins 1973). Using this same classification scheme, the majority of Kentucky caddisflies should not be classified as *shredders* but rather as *predators*, such as the Rhyacophilidae and Hydropsychidae, or *collectors*, those species that filter or scrape algal cells and decomposing organic matter less than 1 mm in particle size. The Limnephilinae have undergone great speciation in the Western United States (Nimmo 1971, Schmid 1955). It is very likely that the quality of the leaf fall or allochthonous input, in the woodland streams has also affected their success in the western states and influenced the relatively sparse fauna in the midwestern and southern states.

Faunal lists are a valuable source of baseline data that can be used in the preparation of an environmental assessment of an area and in monitoring temporal changes in environmental quality (Resh and Unzicker 1975). An example of the latter application of these lists and collections can be seen by examining the temporal change in the distribution of *Neophylax ayanus*, originally described from collections from Bear-

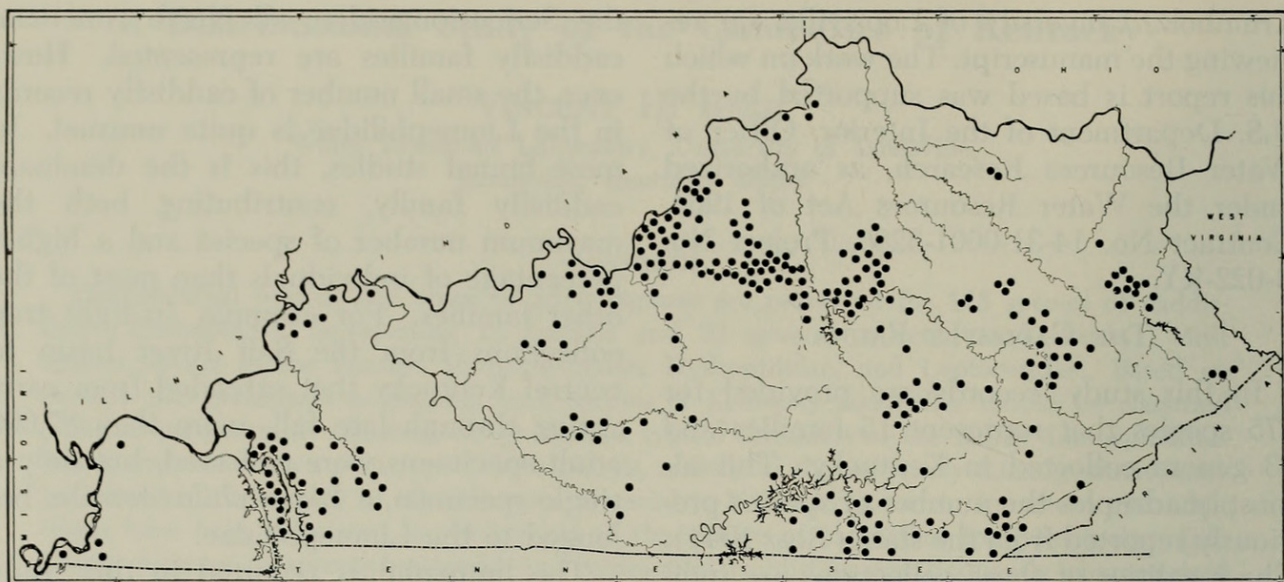


FIG. 1. Map of Kentucky indicating localities of caddisfly collections used in this study.

grass Creek in 1937 (Ross 1938). This urban stream that traverses Louisville has undergone many changes due to increases in domestic sewage and industrial discharges. The absence of *N. ayanus* from collections taken at the same localities 35 years later (1972) indicates the low tolerance of this species to the environmental changes that have occurred.

Immature Stages and Specific Level Identification

A critical problem in studies of aquatic insects is the lack of association of the immature aquatic stages with the taxonomically known aerial adult stage (Wiggins 1966). Since keys for identifying larval or pupal stages to species have yet to be developed for most genera, specific level identifications must be based on either specimens that have been reared to adults, or on adult collections. Preserved benthic samples are of little use in providing distributional information because of our inability to identify these larval specimens to the species level. This is especially true in Kentucky where such common genera as *Cheumatopsyche* and *Hydropsyche* are very poorly known in the larval stages.

Adult caddisflies, however, are quite easily collected, using a variety of ultraviolet light traps. Since most adults are evening fliers, daytime sweeping can be

done in typical resting places as on the undersides of bridges, and on tree trunks. While this type of collecting can be productive, a good deal of experience and expertise is required if a representative collection of the caddisflies in the area is to be made. However, certain daytime fliers will not be attracted to light, and a program of daytime sweeping is the only way of collecting them.

During the course of the present study, immature and adult stages were associated for over 40 percent of the species reported here. In addition, detailed life history information was gathered on species of *Ceraclea* (= *Athripsodes*) and *Cheumatopsyche*, the polycentropodid *Nyctiophylax affinis*, and several hydroptilids. Caddisflies rarely have the simple life histories that have been generalized from the few North American species that have been previously examined. Instead, populations are often characterized by multiple cohorts, and in a single caddisfly genus a variety of casemaking, feeding, and behavioral mechanisms may be present. Of particular interest among the Kentucky caddisflies are the unusual features of the life cycle of *Ceraclea transversa* and *C. resurgens*, as both species feed directly on freshwater sponge (Porifera: Spongillidae). In an equally bizarre fashion, larvae and pupae of the hydroptilid caddisfly, *Dibusa angata*, attach their leath-

ery cases directly to the thallus of the freshwater red alga, *Lemanea*. These and other life histories of Kentucky caddisflies will be reported in more detail elsewhere.

THE CADDISFLIES OF KENTUCKY

The records used in this distributional study are from the collections of the Water Resources Laboratory (WRL) and the Harvey B. Lovell Memorial Insect Collection of the University of Louisville (UL), and the Entomology collections of the University of Kentucky (UK), University of Tennessee (UT), and the Illinois Natural History Survey (INHS). The WRL collections were made during preimpoundment surveys, particularly in central and eastern Kentucky.

The following list is based on collections from light traps and larval and pupal rearings (Resh 1972). As with any attempted faunal delineation, this list is by no means complete and is intended to serve as a basis for other studies. The dates refer to the range of adult capture, while those annotated with "imm" refer to collections of immature specimens and those species reared in the laboratory.

For several species, "nr" has been inserted prior to the specific name, indicating that the specimens examined were near or closest to that described species. This usually represented an identification based on a small series of specimens that did not agree totally with diagnostic or descriptive characters of the closest related species. These specimens may represent undescribed species, or variations in previously described species. These specimens have been examined by Trichoptera specialists and are presented in the hope that future collecting and analysis of a larger series of specimens from these localities, will help determine their correct taxonomic status. The nomenclatural changes in the Leptoceridae follow those of Flint (1974) and Morse (1975).

RHYACOPHILIDAE

Rhyacophila appalachia Morse and Ross
Breathitt Co., Robinson Forest, 14 June (UK).

Rhyacophila carolina Banks

Anderson Co., Salt R., 7–14 May (WRL); Breathitt Co., Robinson Forest (Falling Rock Cr.), 18 May–14 June (UK); Fayette Co., Lexington (Tates Cr.), 8 June (UK); Jessamine Co., Indian Falls, 29 April (UK); McCreary Co., Cumberland Falls State Park (Eagle Cr.), 16 March (UK); Menifee Co., Murder Cave, 23 October (INHS); Powell Co., Natural Bridge State Park, 13 July (UL); Rockcastle Co., Horselick Cr., 17 May (WRL); Shelby and Spencer Cos., Brashears Cr., 11–14 May (WRL); Spencer Co., Salt R., 11 May (WRL).

Rhyacophila carpenteri Milne

Hart Co., Mammoth Cave National Park (Good Springs), 20 May (INHS); Madison Co., Dog Foot Springs, 6 June (UK); Meade Co., Otter Cr. Park (Morgans Cr.), imm (INHS).

Rhyacophila fenestra Ross

Fayette Co., Steeles Run, 24 April (UK); Shelby Co., Shelbyville (Brashears Cr.), 20 April (WRL).

Rhyacophila glaberrima Ulmer

Hart Co., Mammoth Cave National Park, 8 April–20 May (INHS); Johnson Co., Paintsville (Paint Cr.), 21 June (WRL).

Rhyacophila ledra Ross

Fayette Co., Evans Mill (Raven Run), 27 May (INHS); Wayne Co., Little Fork of Cumberland R., 18 May (UT).

Rhyacophila lobifera Betten

Fayette Co., Raven Run, 6 May (INHS) and Boone Cr., 10 May (UK); Jefferson Co., May (UL); Jessamine Co., Indian Falls, imm (UK); Shelby and Spencer Cos., Brashears Cr., 7 May (WRL); Spencer Co., Salt R., 30 April (WRL).

Rhyacophila minor Banks

McCreary Co., Cumberland Falls, 12 May (INHS); Menifee Co., Red R., 17 April (UK).

Rhyacophila otica Etnier and Wray

Breathitt Co., Robinson Forest, 14 June (UK).

Rhyacophila parantra Ross

Fayette Co., Lexington, 9 June (UK); Garrard Co., Buena Vista (Ison Cave), 31 May (INHS); Hart Co., Mammoth Cave (Spring Run), 20 May (INHS); Madison Co., Dog Foot Springs, 6 June (UK); Meade Co., Morgans Cr., 7 June (INHS).

Rhyacophila torva Hagen

Jessamine Co., Indian Falls, 29 April (UK).

GLOSSOSOMATIDAE

Agapetus hessi Leonard and Leonard

Wayne Co., Little So. Fork of Cumberland R., 18 May (Etnier 1973).

Agapetus illini Ross

Christian Co., Hopkinsville, 26 April (INHS); Fayette Co., 24 April (UK); Jessamine Co., Indian Falls, imm (UK); Mercer Co., Harrodsburg, 10 July (INHS).

Agapetus nr rossi Denning

Wayne Co., Little So. Fork of Cumberland R.,
18 May (UT).

Agapetus tomus Ross

Breathitt Co., Robinson Forest, 14 June (UK);
Green Co., 4 May (INHS).

Glossosoma intermedium

Meade Co., Morgans Cr., 15 March (INHS).

Glossosoma nigrior (Banks)

Hart Co., Hardyville (Zoo Springs), 16 June
(INHS); Meade Co., Doe Run, 7 November
(INHS).

Matrioptila jeanae (Ross)

Bell Co., Pineville (Cumberland R.), 13 June
(INHS); McCreary Co., Cumberland Falls,
12 May–12 June (INHS); Wayne Co., Little
So. Fork of Cumberland R., 18 May (UT).

Protoptila alexanderi Ross

Union Co., Sturgis, 22 August (INHS).

Protoptila maculata (Hagen)

Anderson Co., Salt R., 30 April–21 September
(WRL); Bell Co., Pineville (Cumberland R.),
24 June (INHS); Shelby and Spencer Cos.,
Brashears Cr., 7 May–20 September (WRL);
Spencer Co., Salt R., 31 May–1 October
(WRL).

Protoptila palina Ross

Bell Co., Pineville (Cumberland R.), 28 Au-
gust (INHS).

PHILOPOTAMIDAE

Chimarra aterrima Hagen

Anderson Co., 3 July (UK); Fayette Co.,
Lexington, 19 May (UK), Raven Cr., May
(INHS), Steeles Run, imm (UK) and Boone
Creek, imm (UK); Harlan Co., 12 June
(INHS); Jefferson Co., Louisville (Beargrass
Cr.), 2 June (INHS); Jessamine Co., Indian
Falls (Hickman Cr.), 24 April (UK) and
Marble Cr., imm (UK); McCreary Co., Cum-
berland Falls State Park, imm (Eagle Cr.),
(UK); Oldham Co., Covered Bridge Boy
Scout Camp, 19 April (UL).

Chimarra feria Ross

Fayette Co., Lexington (Tates Cr.), 8 June
(UK).

Chimarra obscura (Walker)

Anderson Co., Salt R., 7 May–27 September
(WRL); Breathitt Co., Quicksand, 8 May
(INHS); Fayette Co., Lexington, 13 April–
30 July (UK); Jefferson Co., Beargrass Cr.,
16 June (INHS); Jessamine Co., Kentucky R.,
imm (UK); Johnson Co., Paintsville (Paint
Cr.), 21 June–31 August (WRL); Powell
Co., Natural Bridge State Park, 11 August
(INHS); Shelby and Spencer Cos., Brashears
Cr., 1 May–19 September (WRL); Spencer
Co., Salt R., 11 May–19 September (WRL);
Trigg Co., Land Between the Lakes, 23–24
June (UK).

Chimarra nr obscura (Walker)

Fayette Co., Lexington, 30 June (UK).

Chimarra socia Hagen

Bell Co., Pineville (Cumberland R.), 13 June
(INHS).

Dolophiloides distinctus (Walker)

Breathitt Co., Robinson Forest, 14 June (UK);
Powell Co., Natural Bridge State Park, 8 Feb-
ruary–1 March (UK); Wolfe Co., Mill Cr.,
2 March (UK).

Wormaldia moesta (Banks)

Jackson Co., Hicksey Cave, 5 June (INHS);
Meade Co., Otter Creek Park (Morgans Cr.),
1 February (INHS); Menifee Co., Murder
Cave, 23 October (INHS); Powell Co., Nat-
ural Bridge State Park, 1 March (UK); Wolfe
Co., Mill Creek, 2 March (UK).

Wormaldia nr moesta (Banks)

Whitely Co., Anvil Bridge (Cumberland R.),
imm (UK).

Wormaldia shawnee Ross

Christian Co., Hopkinsville, imm (INHS).

PSYCHOMYIIDAE

Cernotina nr calcea Ross

Anderson Co., Salt R., 25 June (WRL); Spen-
cer Co., Taylorsville (Brashears Cr. and Salt
R.), 9 July (WRL).

Lype diversa (Banks)

Breathitt Co., Robinson Forest, 14 June (UK);
McCreary Co., Cumberland Falls, 12 May
(INHS); Meade Co., Doe Run, 30 April–1
June (INHS); Rockcastle Co., Horselick
Cr., 17 May (WRL); Wayne Co., Little So.
Fork of Cumberland R., 18 May (UT).

Psychomyia flavida (Hagen)

Bell Co., Pineville (Cumberland R.), 24 June–
28 August (INHS); Breathitt Co., Robinson
Forest, 14 June (UK); Henderson Co., Hen-
derson, 27 June (INHS); Laurel Co., Living-
ston (Rockcastle R.), 16 June (INHS); Mc-
Creary Co., Cumberland Falls, 12 May
(INHS); Meade Co., Doe Run, 17 June–21
July (INHS, WRL, UL); Rockcastle Co.,
Horselick Cr., 17 May (WRL).

POLYCENTROPODIDAE

Cynellus fraternus (Banks)

Anderson Co., Salt R., 10 June–20 September
(WRL); Fayette Co., Lexington, 10 June–
25 August (UL); Fulton Co., Bondurant, 27
August (INHS); Hart Co., Hardyville (Green
R.), 15 June (INHS); Johnson Co., Paints-
ville (Paint Cr.), 21 June (WRL); Lyon Co.,
Eddyville (Cumberland R.), 6 August (INHS);
Meade Co., Otter Cr. Park (Morgans Cr.),
14 September (INHS); Shelby and Spencer
Cos., Brashears Cr., 2 June–21 September
(WRL); Spencer Co., Salt R., 10 June–20
September (WRL); Trigg Co., Land Between
the Lakes (L. Barkley), 12–13 September
(INHS); Union Co., Caseyville, 28 August
(INHS).

Neureclipsis crepuscularis (Walker)

Breckinridge Co., Camp Breckinridge, 10 May (INHS); McCreary Co., Cumberland Falls, 12 May (INHS).

Neureclipsis parvulus Banks

Bell Co., Pineville, 24 June (INHS); Lyon Co., Eddyville (Cumberland R.), 6 August (INHS).

Nyctiophylax affinis (Banks)

Anderson Co., Salt R., 25 June (WRL); Breathitt Co., Robinson Forest, 14 June (UK); Spencer Co., Taylorsville (Brashears Cr. and Salt R.), 11 May–9 September (WRL).

Nyctiophylax celta Denning

Reported by Morse (1972) from southeastern Kentucky.

Nyctiophylax uncus Ross

Reported by Morse (1972) from southeastern Kentucky.

Phylocentropus carolinus Carpenter

McCreary Co., Cumberland Falls, 12 May (INHS).

Phylocentropus hansonii (Root)

Rockcastle Co., Horselick Cr., 17 May (WRL).

Phylocentropus placidus (Banks)

Rockcastle Co., Horselick Cr., 17 May (WRL).

Polycentropus barri Ross and Yamamoto

Breathitt Co., Robinson Forest, 14 June (UK); Jackson Co., John Rogers Cave and Blowing Springs Cave, 20 May–14 July (UK) (INHS).

Polycentropus blicklei Ross and Yamamoto

Trigg Co., Land Between the Lakes, 23–24 June (UK).

Polycentropus cinereus (Hagen)

Anderson Co., Salt R., 31 May–30 September (WRL); Breathitt Co., Robinson Forest, 14 June (UK); Lyon Co., Eddyville (Cumberland R.), 6 August (INHS); Oldham Co., Harrods Cr., 20 May–30 August (WRL); Shelby and Spencer Cos., Brashears Creek, 6 May–7 October (WRL); Spencer Co., Salt R., 7 May–8 October (WRL).

Polycentropus confusus Hagen

Rockcastle Co., Horselick Cr., 17 May (WRL).

Polycentropus crassicornis Walker

Breckinridge Co., Camp Breckinridge, imm (INHS).

Polycentropus elarus Ross

Barren Co., Beckton (Bryant Edmonds Cave), 14 April (INHS); Elliot Co., Gimlet (Tar Kiln Cave), 23 May (INHS); Fayette Co., Lexington (Tates Cr.), 8 June (UK); Wayne Co., Blowing Cave, 21 August (INHS).

Polycentropus maculatus Banks

Breathitt Co., Robinson Forest, 14 June (UK).

Polycentropus remotus Banks

Spencer Co., Taylorsville (Salt R.), imm (WRL).

Polycentropus sp. a

Christian Co., Hopkinsville, 28 April (INHS), cited in Ross (1944).

HYDROPSYCHIDAE

Aphropsyche doringa Milne

Johnson Co., Paintsville (Paint Cr.), 13 May (WRL).

Cheumatopsyche analis (Banks)

Anderson Co., Salt R., 30 April–20 September (WRL); Bell Co., Pineville, 24 June (INHS); Breathitt Co., Robinson Forest, 18 May–14 June (UK); Christian Co., June (UK); Fayette Co., Steeles Run and Lexington, 25 April–8 August (UK); Gallatin Co., Warsaw, 14 June–3 August (INHS); Green Co., Greensburg (Camp Branch Cave), 19 April (INHS); Jefferson Co., Louisville, 10 April–15 June (WRL); Jessamine Co., Indian Falls (Hickman Cr.), 24 April (UK); Johnson Co., Big Sandy R. (Open Fork) and Little Paint Cr., 9 May–3 August (WRL); Lyon Co., Eddyville (Cumberland R.), 6 August (INHS); Mercer Co., Harrodsburg, 10 June (INHS); Metcalfe Co., Sulfur Cr. Cave, 16 April (INHS); Oldham Co., Horner Bird and Wildlife Sanctuary and Covered Bridge Boy Scout Camp, 14 April–18 August (WRL, UL); Rockcastle Co., Horselick Cr., 17 May (WRL); Trigg Co., Land Between the Lakes, 23–24 June (UK).

Cheumatopsyche aphanta Ross

Breathitt Co., Robinson Forest, 14 June (UK).

Cheumatopsyche burksi Ross

Oldham Co., 5 August (UL).

Cheumatopsyche campyla Ross

Christian Co., 8 June (UK); Breathitt Co., Robinson Forest, 14 June (UK); Bullitt Co., Smithville (Salt R.), 23 May (UL) and 27 September (INHS); Fayette Co., Lexington, 3 July (UK); Oldham Co., 25 May (UL); Rockcastle Co., Horselick Cr., 17 May (WRL); Shelby and Spencer Cos., Brashears Cr., 30 April–1 October (WRL); Spencer Co., Salt R., 24 April–7 October (WRL); Trigg Co., Land Between the Lakes, 23–24 June (UK).

Cheumatopsyche goera Denning

Trigg Co., Land Between the Lakes, 23–24 June (UK).

Cheumatopsyche harwoodi harwoodi Denning

Bell Co., Pineville, (Gordon 1972 unpublished doctoral dissertation, University of Georgia, Athens, Ga.).

Cheumatopsyche helma Ross

Bell Co., Pineville, 24 June (INHS).

Cheumatopsyche minuscula (Banks)

Pulaski Co., Burnside, 11 June (INHS).

Cheumatopsyche nr rossi (Gordon n.n. unpublished doctoral dissertation)

Fayette Co., Lexington, 20 April–1 May (UK).

Cheumatopsyche oxa Ross

Jefferson Co., 1 May (UL); Jessamine Co., Indian Falls, 29 April (UK); Johnson Co., Paintsville (Paint Cr.), 21 June–31 August (WRL); Leslie Co., Pine Mountain (Greasy Cr.), 25–26 April (INHS); Powell Co., Nat-

ural Bridge State Park, 11 August (INHS), and Slade, 8 May (INHS); Warren Co., 18 June (UK).

Cheumatopsyche pasella Ross

Bell Co., Pineville, 24 June–28 August (INHS); McCreary Co., Cumberland 12 May (INHS); Spencer Co., Salt R., 16 June (WRL).

Cheumatopsyche sordida (Hagen)

Bell Co., Pineville, 28 August (INHS); McCreary Co., Cumberland Falls, 12 May (INHS); Rockcastle Co., Livingston (Rockcastle R.), 15–16 June (INHS).

Diplectrona modesta Banks

Breathitt Co., Robinson Forest, imm (UK), Jackson, imm (UK), and Quicksand, 8 May–14 June (INHS); Bullitt Co., 23 May (UL); Edmonson Co., Mammoth Cave (Good Springs), 20 May (INHS); Johnson Co., Paintsville (Paint Cr.), 31 August (WRL); Meade Co., Morgans Cr., 7 September (INHS) and Doe Run, (Minckley 1963); Oldham Co., 14 July–6 August (UL); Owsley Co., Booneville, imm (INHS); Wolfe Co., 1–13 July (UL).

Hydropsyche betteni Ross

Breathitt Co., Robinson Forest, 14 June (UK); Bullitt Co., 23 May–28 July (UL); Jessamine Co., Indian Falls, 29 April (UK); Johnson Co., Paintsville (Paint Cr.), 31 August (WRL); Oldham Co., Horner Bird and Wildlife Sanctuary, 18 May–18 August (WRL, UL); Russell Co., Jamestown, 18–25 May (UL); Shelby and Spencer Cos., Brashears Cr., 6 May–7 June (WRL); Spencer Co., Salt R., 7 May–16 July (WRL); Wolfe Co., 13 July (UL).

Hydropsyche bronta Ross

Breathitt Co., Robinson Forest, 14 June (WRL).

Hydropsyche cheilonis Ross

Rockcastle Co., Horselick Cr., 17 May (WRL); Spencer Co., Salt R., 25–26 June (WRL).

Hydropsyche depravata (Hagen)

Caldwell Co., Princeton (Eddy Cr.), 20 April (INHS); Lyon Co., Eddyville (Cumberland R.), 3 August (INHS); Meade Co., Doe Run, 2 February–21 July (INHS, UL); Warren Co., 18 June (UK).

Hydropsyche dicantha Ross

Bell Co., Pineville, 24 June (INHS); Rockcastle Co., Horselick Cr., 17 May (WRL); Spencer Co., Salt R., 21 June–14 September (WRL).

Hydropsyche hageni Banks

Bell Co., Pineville, 24 June (INHS); McCreary Co., Cumberland Falls, 27 April–12 May (UK, INHS).

Hydropsyche incommoda Hagen

Fayette Co., Lexington, 20 July (UK); Rockcastle Co., Horselick Cr., 17 May (WRL); Spencer Co., Salt R., 25 June–10 July (WRL).

Hydropsyche morosa Hagen

Breathitt Co., Robinson Forest, 14 June (WRL).

Hydropsyche orris Ross

Christian Co., June (UK); Fayette Co., Lexington, 26 June–3 August (UK); Fulton Co., Bondurant, 6 September (INHS); Lyon Co., Eddyville (Cumberland R.), 6 August (INHS); Oldham Co., Horner Bird and Wildlife Sanctuary, 18 May–5 August (WRL, UL); Spencer Co., Salt R., 31 May (WRL); Trigg Co., Land Between the Lakes, 23–24 June (UK).

Hydropsyche phalerata Hagen

Bell Co., Pineville, 24 June (INHS); McCreary Co., Cumberland Falls, 24 April (UK).

Hydropsyche simulans Ross

Breathitt Co., Quicksand, 6 May (INHS); Breckinridge Co., Camp Breckinridge, imm (INHS); Caldwell Co., Princeton (Eddy Cr.), 3 August (INHS); Christian Co., June (UK); Jefferson Co., 13 July (UL); Henderson Co., 27 June (INHS); McCreary Co., Cumberland Falls, 27 April (UK); Spencer Co., Salt R., 7 June–21 September (WRL).

Hydropsyche sparna Ross

Breathitt Co., Robinson Forest, 14 June (UK); Leslie Co., Lilley Cornett Woods, 11–12 July (UL); Rockcastle Co., Horselick Cr., 17 May (WRL).

Hydropsyche valanis Ross

Spencer Co., Salt R., 16 July (WRL).

Hydropsyche venularis Banks

Bell Co., Pineville, 24 June (INHS).

Macronemum zebratum Hagen

Bell Co., Pineville (Cumberland R.), 24 June (INHS), Harlan Co., 12 June (INHS).

Potamyia flava (Hagen)

Ballard Co., 24 May (UK); Fayette Co., Lexington, 20 July (UK); Fulton Co., Bondurant, 23 August–1 September (INHS); Gallatin Co., Warsaw (Ohio R.), 1 July–3 August (INHS); Hart Co., Hardyville (Green R.), 15 June (INHS); Henderson Co., Henderson, 12 May (INHS); Jefferson Co., 9 May–13 July (UL); Lyon Co., Eddyville (Cumberland R.), 6 August (INHS); Oldham Co., 14 June (UL); Spencer Co., Brashears Cr., 9–15 July (WRL); Spencer Co., Salt R., 7 July–22 August (WRL); Trigg Co., Land Between the Lakes, 23–24 June (UK); Union Co., Sturgis, 4 July–31 August (INHS) and Caseyville, 28 August (INHS).

HYDROPTILIDAE

Agraylea multipunctata Curtis

Meade Co., Doe Run (Minckley 1963).

Dibusa angata Ross

Jessamine Co., Indian Falls, 24–29 April (UK); Johnson Co., Paintsville (Paint Cr.), 8 May (WRL); McCreary Co., Cumberland Falls, 12 May (INHS).

Hydroptila ajax Ross

Spencer Co., Brashears Cr. and Salt R., May–9 September (WRL).

- Hydroptila nr ajax* Ross
Johnson Co., Paintsville (Paint Cr.), 21 June (WRL).
- Hydroptila amoena* Ross
Rockcastle Co., Horselick Cr., 17 May (WRL).
- Hydroptila angusta* Ross
Anderson Co., Salt R., 25 June (WRL); Spencer Co., Taylorsville (Brashears Cr. and Salt R.), 7 June–24 September (WRL).
- Hydroptila armata* Ross
Anderson Co., Salt R., 31 May–9 September (WRL); Shelby and Spencer Cos., Brashears Cr., 25 May–9 September (WRL); Spencer Co., Salt R., 21 May–20 September (WRL).
- Hydroptila consimilis* Morton
Anderson Co., Salt R., 24 June (WRL); Breathitt Co., Robinson Forest, 14 June (UK).
- Hydroptila nr consimilis* Morton
Breathitt Co., Robinson Forest, 14 June (UK).
- Hydroptila delineata* Morton
Whitley Co., Cumberland Falls, 27 April (UK).
- Hydroptila grandiosa* Ross
Johnson Co., Paintsville (Paint Cr.), 21 June–14 July (WRL).
- Hydroptila hamata* Morton
Bell Co., Pineville, 24 June (INHS); Breathitt Co., Robinson Forest, 14 June (UK); Johnson Co., Paintsville (Paint Cr.), 21 June (WRL); Mercer Co., Harrodsburg, 10 June (INHS); Rockcastle Co., Livingston, 16 June (INHS); Spencer Co., Salt R., 9 September (WRL); Trigg Co., Land Between the Lakes, 23–24 June (UK).
- Hydroptila perdita* Morton
Anderson Co., Salt R., 1 May–7 October (WRL); Johnson Co., Paintsville (Paint Cr.), 14 July (WRL); Shelby and Spencer Cos., Brashears Cr., 30 April–1 October (WRL); Spencer Co., Salt R., 27 April–7 October (WRL).
- Hydroptila spatulata* Morton
Breathitt Co., Robinson Forest, 14 June (UK); Wayne Co., Little So. Fork of Cumberland R., 18 May (Etnier 1973).
- Hydroptila vala* Ross
Breathitt Co., Robinson Forest, 14 June (UK).
- Hydroptila virgata* Ross
Breathitt Co., Robinson Forest, 14 June (UK).
- Hydroptila waubesiana* Betten
Spencer Co., Brashears Cr. and Salt R., 10 June–19 September (WRL).
- Ithytrichia mazon* Ross
Spencer Co., Taylorsville (Salt R.), 10–16 June (WRL).
- Mayatrichia ayama* Mosely
Bell Co., Pineville, 24 June (INHS).
- Neotrichia collata* Morton
Ross (1944) cited as from Kentucky, no locality or data given.
- Neotrichia minutisimella* (Chambers)
Rockcastle Co., Livingston, 16 June (INHS).
- Neotrichia okopa* Ross
Anderson Co., Salt R., 25 June (WRL); Spencer Co., Taylorsville (Brashears Cr. and Salt R.), 2 June–15 July (WRL).
- Neotrichia riegei* Ross
Johnson Co., Paintsville (Paint Cr.), 21 June–31 August (WRL).
- Ochrotrichia anisca* (Ross)
Breathitt Co., Robinson Forest, 14 June (UK).
- Ochrotrichia confusa* (Morton)
Jessamine Co., Indian Falls, 29 April (UK).
- Ochrotrichia shawnee* (Ross)
Larue Co., 16 June (UK).
- Ochrotrichia spinosa* (Ross)
Mercer Co., Harrodsburg, 10 June (INHS); Spencer Co., Brashears Cr., 2 June (WRL).
- Ochrotrichia tarsalis* (Hagen)
Spencer Co., Brashears Cr. and Salt R., 10 June–1 October (WRL).
- Ochrotrichia nr unio* (Ross)
Meade Co., Morgans Cr., imm (Minshall 1968).
- Ochrotrichia xena* (Ross)
Spencer Co., Brashears Cr., 11 May (WRL).
- Orthotrichia aegerfasciella* (Chambers)
Anderson Co., Salt R., 25 June (WRL); Breathitt Co., Robinson Forest, 14 June (UK); Fulton Co., Bondurant, 27 August (INHS); Johnson Co., Paintsville (Paint Cr.), 21 June (WRL); Spencer Co., Taylorsville (Brashears Cr. and Salt R.), 25 May–19 September (WRL); Trigg Co., Land Between the Lakes (Lake Barkley), 12–13 September (INHS).
- Orthotrichia cristata* Morton
Anderson Co., Salt R., 25 June (WRL); Spencer Co., Brashears Cr., 9 July (WRL).
- Oxyethira pallida* (Banks)
Anderson Co., Salt R., 25 June–9 September (WRL); Johnson Co., Paintsville (Paint Cr.), 21 June–4 August (WRL).
- Stactobiella delira* (Ross)
McCreary Co., Cumberland Falls, 17 April–12 May (UK, INHS); Rockcastle Co., Horselick Cr., 17 May (WRL).
- Stactobiella palmata* (Ross)
Anderson Co., Salt R., 2 May–25 June (WRL); Breathitt Co., Robinson Forest, 14 June (UK); Johnson Co., Paintsville (Paint Cr., and Little Paint Cr.), 31 May–21 July (WRL); McCreary Co., Cumberland Falls, 12 May (INHS); Shelby and Spencer Cos., Brashears Cr., 7 May–16 June (WRL); Spencer Co., Salt R., 1 May–29 June; Wayne Co., Little So. Fork of Cumberland R., 18 May (UT).

PHRYGANEIDAE

- Agrypnia vestita* (Walker)
Trigg Co., Land Between the Lakes, 16 July (WRL).
- Banksiola dossuaria* (Say)
Pike Co., Shelby Gap, 8–9 June (UK).
- Phryganea sayi* Milne
Bullitt Co., 28 July–7 September (UL); Bul-

litt Co., Shepherdsville, 25 July (WRL);
Meade Co., Otter Cr. Park, 25 July (WRL);
Oldham Co., 6-18 August (UL); Spencer
Co., Salt R., 1-29 August (WRL).

Ptilostomis ocellifera (Walker)

Oldham Co., 12 May (UL).

Ptilostomis semifasciata (Say)

Bell Co., Pineville, 28 August (INHS);
Breathitt Co., Robinson Forest, 14 June (UK).

LIMNEPHILIDAE

Pseudostenophylax uniformis (Betten)

Johnson Co., Paint Cr., 8 May (WRL).

Ironquia punctatissima (Walker)

Carroll Co., Butler State Park, 11 October
(WRL); Jefferson Co., 4 October (UL);
Spencer Co., Rivals, imm (WRL).

Neophylax autumnus Vorhies

Meade Co., Morgans Cr., 26 October (INHS).

Neophylax ayanus Ross

Jefferson Co., Louisville (Beargrass Cr.), 8
October (INHS).

Neophylax concinnus MacLachlan

Oldham Co., 25 November (UL); Spencer
Co., Rivals, imm (WRL).

Neophylax consimilis Betten

Pike Co., Fishtrap Lake, 10 July (WRL).

Neophylax nacatus Denning

Spencer Co., Rivals, imm (WRL).

Platycentropus radiatus (Say)

Pike Co., Fishtrap Lake, 19 June (WRL).

Pycnopsyche gentilis MacLachlan

Leslie Co., Pine Mountain, 23 October (UL);
Whitely Co., Cumberland Falls State Park
(Cumberland R.), 15 March (UK).

Pycnopsyche guttifer (Walker)

Fayette Co., Boone Cr., (UK); Jefferson Co.,
Louisville, 9 October (UL).

Pycnopsyche lepida (Hagen)

Oldham Co., Covered Bridge Boy Scout
Camp, 20 September-21 October, (WRL,
UL).

ODONTOCERIDAE

Psilotreta rufa (Hagen)

Hart Co., Mammoth Cave National Park, 20
May (INHS).

LEPTOCERIDAE

Ceraclea (Athripsodina) ancylus (Vorhies)

Anderson Co., Salt R., 10 May-1 July (WRL);
Oldham Co., Harrods Cr., (WRL); Shelby
and Spencer Cos., Brashears Cr., 7 May-29
June; Spencer Co., Salt R., 7 May-1 July
(WRL).

Ceraclea (C.) transversa (Hagen) (= *Athripsodes
angustus* (Banks) See Morse (1975).

Anderson Co., Salt R., 25 May-10 September
(WRL); Jefferson Co., Louisville (Beargrass
Cr.), 16 June (INHS); Spencer Co., Taylors-
ville (Brashears Cr. and Salt R.), 21 May-15
September (WRL).

Ceraclea (Athripsodina) nr annulicornis (Stephens)
Trigg Co., Land Between the Lakes, 23-24
June (UK).

Ceraclea (C.) cancellata (Betten)

Anderson Co., Salt R., 10 June-3 August
(WRL); Bell Co., Pineville, 24 June (INHS);
Breathitt Co., Robinson Forest, 14 June (UK);
Jefferson Co., 18 August (UL); Johnson Co.,
Paintsville (Paint Cr.), 21 June-14 July
(WRL); Rockcastle Co., Livingston, 16 June
(INHS); Shelby and Spencer Cos., Brashears
Cr., 13 May-6 August (WRL); Spencer Co.,
Salt R., 25 May-10 August (WRL).

Ceraclea (Athripsodina) flava (Banks)

Bell Co., Pineville, 24 June (INHS); Rock-
castle Co., Livingston, 16 June (INHS).

Ceraclea (C.) nr fulva (Rambur)

Spencer Co., Taylorsville (Brashears Cr.),
imm (WRL).

Ceraclea (C.) neffi (Resh)

Breathitt Co., Robinson Forest, 14 June (UK);
Rockcastle Co., Horselick Cr., imm (WRL).

Ceraclea (C.) resurgens (Walker)

Jefferson Co., Harrods Cr., 19 May (WRL);
McCreary Co., Cumberland Falls, 12 May
(INHS).

Ceraclea (Athripsodina) tarsipunctatus (Vorhies)

Bell Co., Pineville, 24 June (INHS); Breathitt
Co., Robinson Forest, 14 June (UK); Breck-
enridge Co., Camp Breckenridge, imm; Chris-
tian Co., June (UK); Fayette Co., Lexington,
9 June-20 July (INHS, UK); Johnson Co.,
Paintsville (Paint Cr.), 21 June (WRL);
McCreary Co., Cumberland Falls, 12 May
(INHS); Rockcastle Co., Livingston, 16 June
(INHS); Spencer Co., Taylorsville (Brashears
Cr. and Salt R.), 15 June-4 July (WRL);
Trigg Co., Land Between the Lakes, 23-24
June (UK).

Ceraclea (C.) maculata (Banks) (= *Athripsodes
transversus* (Hagen), See Morse (1975)

Anderson Co., Salt R., 21 May-9 September
(WRL); Barren Co., 3 July (UK); Fulton
Co., Bondurant, 6 September (INHS); Hen-
derson Co., Henderson, 27 June (INHS);
Jefferson Co., 10-13 July (UL); Lyon Co.,
Eddyville (Cumberland R.), 6 August (INHS);
Oldham Co., Horner Bird and Wildlife Sanc-
tuary, 18 May-5 August (UL, WRL); Shelby
and Spencer Cos., Brashears Cr., 31 May-10
September (WRL); Spencer Co., Salt R., 21
May-15 September (WRL); Trigg Co., Lake
Barkley, 23 June-13 September (INHS, UK).

Nectopsyche nr albida (Walker)

Anderson and Spencer Cos., Salt R., 25 June-
19 September (WRL).

Nectopsyche candida (Hagen)

Spencer Co., Taylorsville (Salt R.), 21 June-
24 September (WRL).

Nectopsyche exquisita (Walker)

Bell Co., Pineville, 24 June-28 August (INHS);
Johnson Co., Paintsville (Paint Cr.), 21 June
(WRL); Spencer Co., 19 June (UL); Spen-

cer and Shelby Cos., Brashears Cr., 7 May–10 October (WRL); Spencer Co., Salt R., 11 May–16 August (WRL).

Nectopsyche pavida (Hagen)

Bell Co., Pineville, 24 June (INHS); Rockcastle Co., Livingston (Rockcastle R.), 16 June (INHS).

Mystacides sepulchralis (Walker)

Wayne Co., Little So. Fork of Cumberland R., 18 May (UT).

Oecetis avara (Banks)

Bell Co., Pineville, 24 June–28 August (INHS).

Oecetis cinerascens (Hagen)

Anderson Co., Salt R., 15 May–10 September (WRL); Fayette Co., Lexington, 26 June (UK); Johnson Co., Paintsville (Paint Cr.), 21 June (WRL); Oldham Co., 18 August (UL); Spencer Co., Brashears Cr. and Salt R., 11 May–19 September (WRL); Trigg Co., Lake Barkley, 12–13 September (INHS).

Oecetis ditissa Ross

Anderson Co., Salt R., 25 June (WRL); Johnson Co., Paintsville (Paint Cr.), 21 June (WRL); Spencer Co., Taylorsville (Brashears Cr. and Salt R.), 2 June–19 September (WRL); Trigg Co., Lake Barkley, 23 June–13 September (UK, INHS).

Oecetis inconspicua (Walker)

Anderson Co., Salt R., 31 May–1 October (WRL); Bell Co., Pineville, 24 June (INHS); Breathitt Co., Robinson Forest, 14 June (UK); Bullitt Co., 23 May (UL); Caldwell Co., Princeton (Eddy Cr.), 3 August (INHS); Carroll Co., Gen. Butler State Park and Carrollton (Kentucky R.), 30 June–11 October (UL); Christian Co., June (UK); Fayette Co., Lexington, 10 May–25 August (UK, INHS); Fulton Co., Bondurant, 23 August (INHS); Jefferson Co., 28 May–13 July (UL); Johnson Co., Paintsville (Paint Cr.), 21 June–31 August (WRL); Lyon Co., Eddyville (Cumberland R.), 6 August (INHS); Mercer Co., Harrodsburg, 10 June (INHS); Oldham Co., Horner Bird and Wildlife Sanctuary, 18 May–5 August (WRL, UL); Rockcastle Co., Horselick Cr. and Livingston (Rockcastle R.), 17 May–16 June (WRL, INHS); Shelby and Spencer Cos., Brashears Cr., 11 May–1 October (WRL); Spencer Co., Salt R., 7 May–7 September (WRL); Trigg Co., Land Between the Lakes (Lake Barkley), 23 June–13 September (UK, INHS); Union Co., Sturgis, 31 August (INHS); Wolfe Co., 15 July (UL).

Oecetis nocturna Ross

Anderson Co., Salt R., 31 May–1 October (WRL); Fayette Co., Lexington, 10 May–17 June (UK); Johnson Co., Paintsville (Paint Cr.), 21 June–31 August (WRL); Spencer Co., Brashears Cr. and Salt R., 25 May–7 October (WRL); Trigg Co., Land Be-

tween the Lakes, 16 June–13 September (WRL, INHS).

Oecetis persimilis (Banks)

Anderson Co., Salt R., 25 June (WRL); Barren Co., 8 July (UK); Bell Co., Pineville, 24 June (INHS); Johnson Co., Paintsville (Paint Cr.), 21 June–4 August (WRL); Spencer Co., Taylorsville (Salt R.), 10 June–16 August (WRL).

Setodes incertus (Walker)

Bell Co., Pineville, 24 June–28 August (INHS).

Trienodes abus Milne

Jefferson Co., 20 May (UL).

Trienodes connatus Ross

Bell Co., Pineville (Cumberland R.), 24 June (INHS); Spencer Co., Taylorsville (Salt R.), 1 August–14 September (WRL).

Trienodes nr dipsius (Ross)

Breathitt Co., Robinson Forest, 14 June (UK).

Trienodes flavescens Banks

Trigg Co., Land Between the Lakes, 23 June (UK).

Trienodes ignitus (Walker)

Spencer Co., Salt R., 25–26 June (WRL).

Trienodes injustus (Hagen)

Bell Co., Pineville, 24 June (INHS); Breathitt Co., Robinson Forest, 14 June (UK).

Trienodes melacus Ross

Anderson Co., Salt R., 25 June (WRL); Spencer Co., Taylorsville (Brashears Cr. and Salt R.), 31 May–16 August (WRL).

Trienodes tardus Milne

Fayette Co., Lexington, 15 May–26 June (UK, INHS); Johnson Co., Paintsville (Paint Cr.), 21 June–4 August (WRL); Oldham Co., Horner Bird and Wildlife Sanctuary, 18 May–18 August (WRL, UL); Spencer Co., Taylorsville (Brashears Cr. and Salt R.), 2 June–1 October (WRL); Union Co., Sturgis, 22 August (INHS).

GOERIDAE

Goera calcerata Banks

Breathitt Co., Robinson Forest, 14 June (UK); Wayne Co., Little So. Fork of Cumberland R., 18 May (UT).

Goera stylata Ross

McCreary Co., Cumberland Falls, 12 May (INHS).

LEPIDOSTOMATIDAE

Lepidostoma griseum (Banks)

Jackson Co., Blowing Springs Cave, 24 September (INHS).

Lepidostoma togatum (Hagen)

Edmonson Co., Mammoth Cave, 3–20 May (INHS); Rockcastle Co., Livingston (Rockcastle R.), 16 June (INHS).

Theliopsyche melas Edwards

Fayette Co., Lexington, 9 June (UK).

BRACHYCENTRIDAE

- Brachycentrus lateralis* (Say)
Jefferson Co., Louisville (Ohio R.), May (INHS).
- Brachycentrus numerosus* (Say)
Jefferson Co., Louisville (Ohio R.), May (INHS).
- Micrasema bennetti* Ross
Fayette Co., Steeles Run, 28 March (UK).
- Micrasema rusticum* (Hagen)
Jessamine Co., Indian Falls, imm (UK); McCreary Co., Cumberland Falls, 12 May (INHS); Rockcastle Co., Horselick Cr., 17 May (WRL); Wayne Co., Little So. Fork of Cumberland R., 18 May (UT).
- Micrasema wataga* Ross
McCreary Co., Cumberland Falls, 12 May (INHS).

HELICOPSYCHIDAE

- Helicopsyche borealis* (Hagen)
Bell Co., Pineville, 24 June (INHS); Breathitt Co., Robinson Forest, 14 June (UK); Bullitt Co., 8 July (UL); Jefferson Co., Louisville (Beargrass Cr.), 16 June–8 October (WRL); McCreary Co., Cumberland Falls, 12 June (INHS); Meade Co., 21 July (UL); Menifee Co., Wolfpen Cr., imm (UK); Nelson Co., Beech Fork of Salt R., imm (WRL); Oldham Co., Covered Bridge Boy Scout Camp (Harrods Cr), 14 May–8 October (UL); Wayne Co., Little So. Fork of Cumberland R., 18 May (UT).

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