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**ANNOTATED LIST OF CADDISFLIES (TRICHOPTERA) OCCURRING
ALONG THE UPPER PORTION OF THE WEST BRANCH OF
THE MAHONING RIVER IN NORTHEASTERN OHIO**

Eric P. McElravy¹ and B. A. Foote²

ABSTRACT

Information is given on the seasonal distribution of 85 species of Trichoptera collected along a small, relatively unpolluted stream in northeastern Ohio.

Little work has been done on the species of caddisflies occurring in Ohio, even though rather extensive accounts of the fauna of nearby states or particular stream systems are available (Leonard and Leonard, 1949; Ellis, 1962; Hilsenhoff et al., 1972; Resh, 1975). Most of the Ohio records are contained in papers of Marshall (1939) and Horwath (1964) dealing with the Lake Erie Islands, and in Ross' (1944) monograph of the Illinois fauna. These papers record 74 species from Ohio, many of which are lake, marsh, and larger stream forms. The present study is one of several stream surveys that have been undertaken since 1970 to elucidate the aquatic insect fauna of the northeastern counties of the state. These studies have added some 70 caddisfly species to the Ohio list (McElravy et al., 1977). The present paper gives some of the data obtained from collections taken along the upper portion of the West Branch of the Mahoning River in Portage County.

THE STUDY AREA

The West Branch of the Mahoning River has its origin in the northern portion of Portage County, Ohio (Fig. 1). From this point it flows generally southward as a first and second order stream (Hynes, 1970) for approximately 20 km before entering the reservoir formed by the West Branch Dam. Below the dam, the river continues generally northeastward some 19 km to its confluence with the East Branch of the Mahoning River at Newton Falls, a total distance of approximately 52 km.

The segment of stream located between the backwaters of the reservoir to a point close to the source was selected for this study (Fig. 2). This segment flows through alternating wooded and agricultural areas, but also receives effluents from domestic sources downstream of Harmon Brook (Fig. 2). Through the study area the stream flows over glacial till of the Kent moraine (Winslow and White, 1966) which, except at the headwaters area, is largely sand and gravel with admixtures of larger particles and lenses of fine gray clay. The stream has a relatively constant gradient of approximately 3.5 m/km.

Five stations, numbered consecutively from upstream to downstream, were established (Fig. 2). The most upstream site was located at a point where the stream becomes large enough to be considered permanent. The four other stations were established near road access points. At station 1 the stream flowed slowly over a silty substrate, with no riffle areas, but with clumps of emergent vegetation. At the other four stations a distinct riffle-pool sequence was observed, with little emergent vegetation, and a sand-cobble substrate. Size of the substrate particles and the volume of the stream gradually increased

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downstream. A complete description of each collecting station and data on chemical and physical parameters of the stream at the collecting stations are given in McElravy (1976); some of these data are summarized in Table 1.

COLLECTING METHODS

Larval and pupal stages were collected monthly at each station over a period of one year beginning in August of 1974. At stations 2-5, samples were taken from riffle areas,

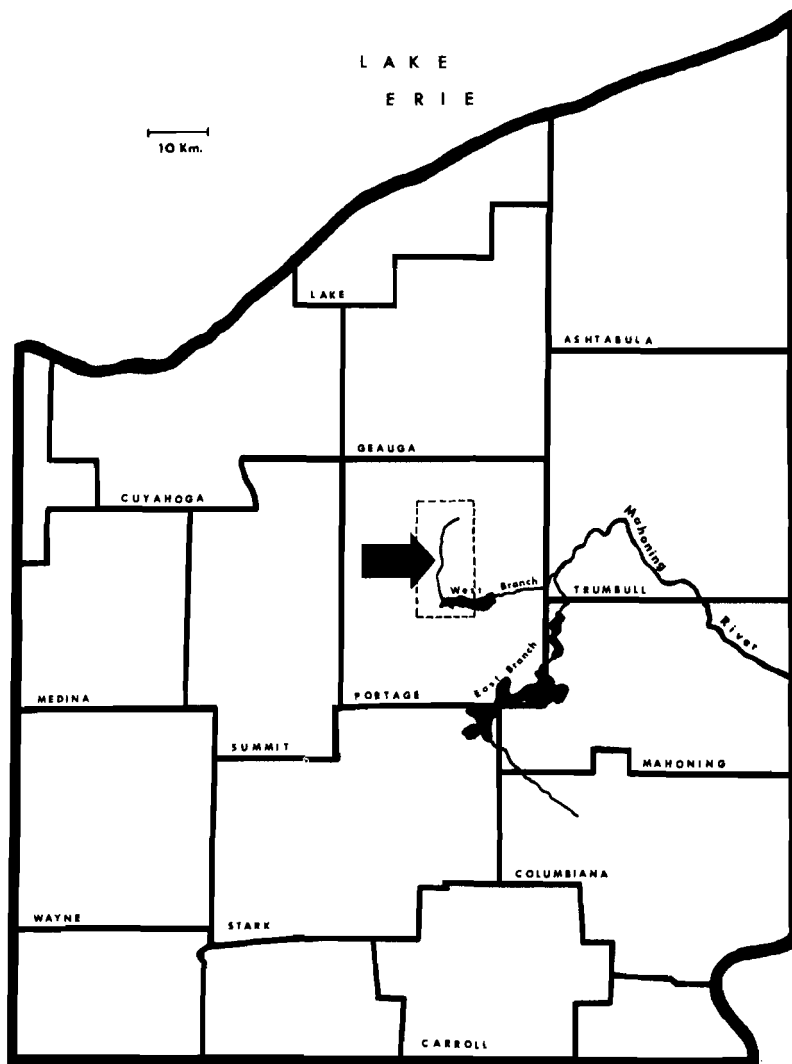


Fig. 1. Location of study area.

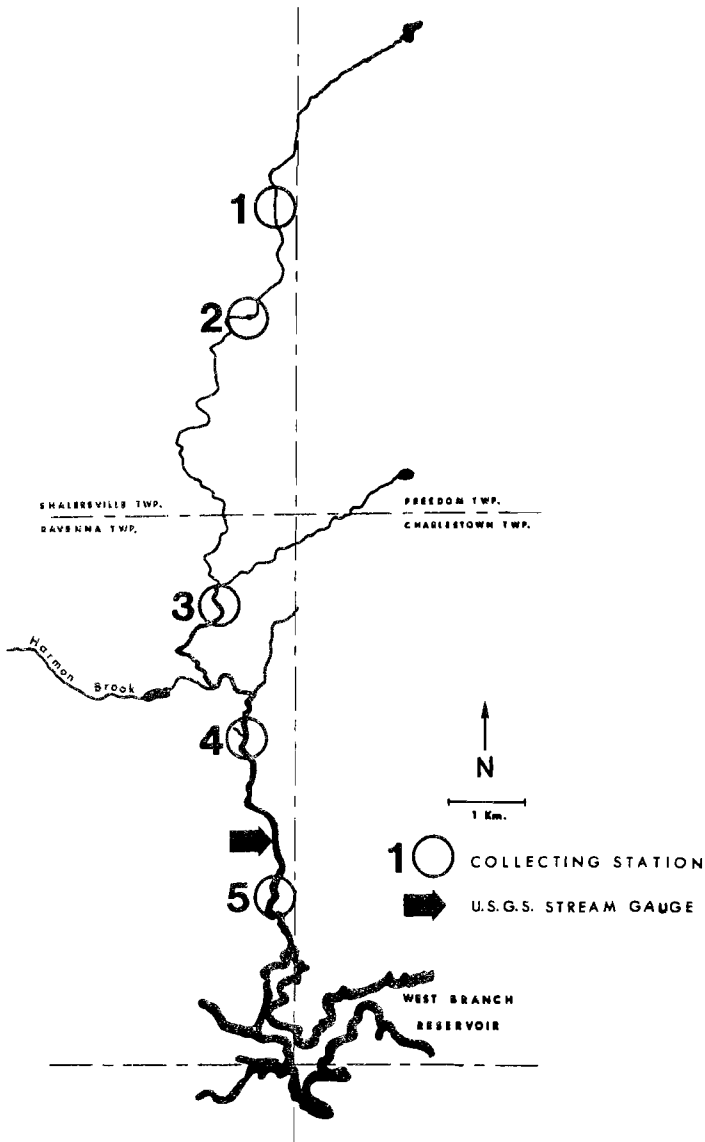


Fig. 2. Location of collecting sites.

pools, and along the stream margins. At station 1, samples were taken along transects since distinct riffle and pool areas did not exist. An equal-effort sampling procedure was established in an attempt to standardize collections and allow some comparison. Riffle samples were taken with a kick screen 70 by 80 cm (mesh size 1 mm); pool and marginal

Species	No. Coll.	April	May	June	July	August	September	October
<i>Rhyacophila lobifera</i>	15		■					
<i>Glossosoma nigror</i>	127	■	■	■	■	■	■	■
<i>Wormaldia moesta</i>	2				■			
<i>Wormaldia shawnee</i>	31			■	■	■		
<i>Chimarra aterrima</i>	1				■			
<i>Chimarra obscura</i>	749		■	■	■	■	■	
<i>Oxyethira pallida</i>	29				■	■	■	
<i>Agraylea multipunctata</i>	4				■			
<i>Orthotrichia aegerfasciella</i>	17			■		■		
<i>Hydroptila armata</i>	59		■	■	■	■	■	
<i>Hydroptila consimilis</i>	4004		■	■	■	■	■	
<i>Hydroptila nr. grandiosa</i>	6		■	■				
<i>Hydroptila hamata</i>	9			■		■	■	
<i>Hydroptila jackmanni</i>	503		■	■				
<i>Hydroptila perdita</i>	22				■	■	■	
<i>Hydroptila strepha</i>	1					■		
<i>Hydroptila vala</i>	20			■				
<i>Hydroptila waubesiana</i>	249		■	■	■	■		
<i>Neotrichia okopa</i>	8				■			
<i>Ochrotrichia arva</i>	13			■				
<i>Ochrotrichia nr. confusa</i>	72			■				
<i>Ochrotrichia spinosa</i>	121			■	■			
<i>Ochrotrichia wojcickyi</i>	6			■	■			
<i>Polycentropus cinereus</i>	95		■	■	■	■	■	
<i>Polycentropus confusus</i>	89		■	■	■	■	■	
<i>Polycentropus crassicornis</i>	1		■					
<i>Polycentropus nr. nascotius</i>	1						■	
<i>Polycentropus pentus</i>	71		■	■	■	■	■	
<i>Polycentropus remotus</i>	2		■					
<i>Nyctiophylax mossatus</i>	3573		■	■	■	■	■	
<i>Cymellus fraterus</i>	4					■		
<i>Lype diversa</i>	29		■	■		■	■	
<i>Hydropsyche bettani</i>	964		■	■	■	■	■	
<i>Hydropsyche bronta</i>	1190		■	■	■	■	■	
<i>Hydropsyche cheilonis</i>	1						■	
<i>Hydropsyche nr. dicantha</i>	2						■	
<i>Hydropsyche slossonae</i>	2475		■	■	■	■	■	
<i>Hydropsyche spama</i>	16		■	■	■		■	
<i>Hydropsyche walkeri</i>	2						■	
<i>Cheumatopsyche aphantia</i>	177			■	■	■	■	
<i>Cheumatopsyche halima</i>	6222		■	■	■	■	■	
<i>Cheumatopsyche h. harwoodi</i>	2						■	
<i>Cheumatopsyche oxa</i>	1993		■	■	■	■	■	
<i>Cheumatopsyche pettiti</i>	6886		■	■	■	■	■	
<i>Diplectrona modesta</i>	1				■			
<i>Banksiola crotchii</i>	20			■	■	■	■	
<i>Banksiola dossuaria</i>	30			■	■	■	■	
<i>Ptilostomis ocellifera</i>	47			■	■	■	■	
<i>Ptilostomis postica</i>	7		■	■	■	■	■	
<i>Ptilostomis semifasciata</i>	32			■	■	■	■	
<i>Phryganea sayi</i>	16					■	■	

Species		April	May	June	July	August	September	October
<i>Molanna blanda</i>	10							
<i>Psephenus indecisa</i>	14							
<i>Trisopteryx abax</i>	114							
<i>Trisopteryx dipsius</i>	1							
<i>Trisopteryx ignitus</i>	152							
<i>Trisopteryx injustus</i>	145							
<i>Trisopteryx marginatus</i>	471							
<i>Trisopteryx nox</i>	46							
<i>Trisopteryx tordus</i>	69							
<i>Ceraclea alagma</i>	5							
<i>Ceraclea difflua</i>	5							
<i>Ceraclea resurgens</i>	24							
<i>Ceraclea tarsipunctata</i>	89							
<i>Ceraclea transversa</i>	84							
<i>Leptocerus americanus</i>	409							
<i>Nectopsyche</i> sp. incl. <i>albida</i>	496							
<i>Oecetis cinerascens</i>	20							
<i>Oecetis inconspicua</i>	1638							
<i>Isonychia lyrata</i>	1							
<i>Isonychia parvula</i>	1							
<i>Isonychia punctatissima</i>	74							
<i>Neophylax concinnus</i>	28							
<i>Neophylax oligius</i>	24							
<i>Limnephilus consocius</i>	8							
<i>Limnephilus indivisus</i>	24							
<i>Limnephilus submonilifer</i>	6							
<i>Platycentropus radiatus</i>	50							
<i>Hydatophylax argus</i>	18							
<i>Pycnopsyche divergens</i>	3							
<i>Pycnopsyche guttifer</i>	68							
<i>Pycnopsyche lepida</i>	202							
<i>Pycnopsyche luculenta</i>	5							
<i>Pycnopsyche scabripennis</i>	115							
<i>Helicopsyche borealis</i>	245							

Fig. 3. Seasonal distribution of caddisfly adults along the upper portion of the West Branch, Mahoning River.

areas were sampled with a dip net. Hand-picking of rocks supplemented pool and riffle samples. Specimens were hand-sorted and preserved in 80% ethyl alcohol.

Adults were sampled with 15-watt Pennsylvania black light traps (Frost, 1957) and pyramid stream emergence traps (Mundie, 1956). Intensive light trapping was done during the period from 15 May, when adults began to appear in some number, until the end of September, when only a few individuals were obtained. Each month was divided into four approximately equal sampling intervals called "monthly periods." During each such period one light trap sample was obtained from each station unless unfavorable weather conditions prevailed. Light traps were operated on the stream edge from approximately 1/2 hour before sunset until 1 1/2 hours after dusk. Additional light trap samples were obtained at stations 3 and 4 before 15 May and during October whenever temperatures exceeded 10° C. A total of 91 light trap samples was obtained. Large collections were subsampled, 200-300 individuals being retained for identification. These subsamples were used to

Table 1. Some chemical and physical parameters of the West Branch of the Mahoning River at the five collecting stations August, 1974-July, 1975.

Parameter	1		2		3		4		5	
	X	Range	X	Range	X	Range	X	Range	X	Range
Dissolved O ₂ , % sat.	94	79-125	104	87-130	107	90-115	102	98-115	105	92-118
CO ₂ , ppm.	5.6	0.0-9.0	4.6	0.0-8.0	4.8	0.0-8.5	4.7	2.0-8.0	4.8	3.0-10.0
pH	7.5	7.2-8.0	7.6	7.1-8.0	7.7	7.0-8.2	7.7	7.0-8.2	7.8	7.2-8.2
Tot. alkalinity, ppm.	75	30-115	67	30-120	71	40-117	71	40-123	82	40-140
Tot. hardness, ppm.	193	110-250	189	110-230	193	115-240	185	115-230	190	115-250
Chloride, ppm.	58	40-135	60	40-120	51	35-75	47	30-70	43	40-50
Avg. width, m.		1.5-2.0		5.0-6.0		4.0-7.0		8.0-10.0		10.0-13.0
Tot. coliforms, Avg./100 ml.	2		2		3		350		220	
Substrate	Fine sand, silt		Sand, gravel, few cobbles & boulders		Gravel, cobbles, boulders		Gravel, cobbles, boulders		Gravel, cobbles, boulders	

estimate the total numbers of each species present in a sample. Twelve emergence traps were placed in the stream at stations 1-4 in late April and operated continuously until October.

Adults were preserved in 80% ethyl alcohol. Genitalia of most specimens were cleared in hot KOH (Ross, 1944) before identification. Adults were determined to species in most cases; immatures, to genus or species. Approximately 39,000 specimens were collected; after subsampling, some 15,000 were identified. Voucher specimens are deposited in the Kent State University collection.

The median "monthly period," the point at which half of the year's total specimens of a species were obtained (Fig. 3), is used in the same manner as Crichton (1971) used the "median week" to indicate seasonal distribution of adults.

Chemical data were obtained with test kits supplied by the Lamotte Chemical Corporation, Chestertown, MD. Dissolved oxygen concentrations were converted to percent saturation. Bacterial counts for total coliforms were performed using membrane filters and Endo's medium.

The following list summarizes observations on the 85 species of Trichoptera in 13 families that were collected along the upper portion of the West Branch of the Mahoning River during 1974 and 1975. Collection stations are numbered as in Figure 2. The sequence of taxa given here follows that of Fischer (1961-1973). Numbers in parentheses are the total number of individuals collected at a particular station. Species totals are given in Figure 3. Species collected directly from the stream as immatures or emerging adults are indicated with an asterisk. The remaining species were obtained only in light traps. Immature forms that could not be determined to species have been omitted (some 3700 specimens).

Family RHYACOPHILIDAE

Rhyacophila lobifera Betten*. Adults—May; sta. 2 (1 female), sta. 3 (12 males, 2 females). Immatures—February, March; sta. 2 (4). This species was apparently restricted to riffle areas of stations having the highest water quality.

Family GLOSSOSOMATIDAE

Glossosoma nigrior Banks*. Adults—April to September; sta. 2 (1 female), sta. 3 (3 males, 24 females), sta. 4 (55 females), sta. 5 (26 males, 18 females). Immatures—All year; sta. 3 (119), sta. 4 (55), sta. 5 (104). Larvae and pupae were found abundantly on larger rocks in riffles of the downstream stations.

Family PHILOPOTAMIDAE

- Wormaldia moesta* (Banks). Only two females were collected, both at sta. 2 on 7 July, 1975.
- W. shawnee* (Ross). Adults—June, July; sta. 2 (24 females), sta. 3 (3 males), sta. 4 (4 males).
- Chimarra aterrima* (Hagen)*. Adults—June; sta. 5 (1 male). Immatures—All year except May; sta. 2 (2), sta. 3 (48), sta. 4 (14), sta. 5 (95). Although larvae of this species were as abundant as those of *C. obscura*, only one adult was taken at light traps.
- C. obscura* (Walker)*. Adults—May to September; sta. 1 (9 females), sta. 2 (101 males, 65 females), sta. 3 (212 males, 187 females), sta. 4 (90 males, 26 females), sta. 5 (39 males, 18 females). Immatures—All year except June; sta. 2 (20), sta. 3 (18), sta. 4 (17), sta. 5 (28). Larvae were found in riffle areas throughout the study area, occurring with *C. aterrima*. However, it was absent from small tributary streams where *C. aterrima* was common.

Family HYDROPTILIDAE

- Oxyethira pallida* (Banks)*. Adults—July, August; sta. 1 (1 female), sta. 4 (3 females), sta. 5 (25 females).
- Agraylea multipunctata* Curtis. Four females were taken at sta. 5 on 5 July, 1975.
- Orthotrichia aegerfasciella* (Chambers). Adults—June, August; sta. 1 (1 female), sta. 3 (16 females).
- Hydroptila armata* Ross. Adults—May, July, August; sta. 1 (1 female), sta. 2 (13 males, 20 females), sta. 3 (6 females), sta. 4 (19 females).
- H. consimilis* Morton*. Adults—May to September; sta. 1 (12 females), sta. 2 (99 males, 1872 females), sta. 3 (35 males, 558 females), sta. 4 (80 males, 386 females), sta. 5 (40 males, 922 females). Immatures—One pupa was taken at sta. 3 during August of 1974. This species was the most abundant hydroptilid collected, being taken at all stations having riffle areas.
- H. sp.* (nr. *grandiosa* Ross). Adults—May, June; sta. 3 (2 females), sta. 4 (4 females). No males were taken; species identification was not possible.
- H. hamata* Morton. Adults—June to August; sta. 1 (5 females), sta. 2 (2 females), sta. 3 (1 female), sta. 4 (1 female).
- H. jackmanni* Blickle*. Adults—May, June; sta. 2 (32 males, 192 females), sta. 3 (9 males, 15 females), sta. 4 (7 males, 160 females), sta. 5 (28 males, 60 females). This northern species was also taken along small, stony tributary streams near the study area.
- H. perdita* (Morton). Adults—July, August; sta. 1 (1 female), sta. 3 (1 female), sta. 5 (4 males, 16 females).
- H. strepha* Ross. One male was taken at sta. 4 on 13 August, 1975.
- H. vala* Ross. Adults—June; sta. 3 (16 females), sta. 4 (4 males).
- H. waubesiana* Betten. Adults—May to September; sta. 1 (4 females), sta. 2 (19 males, 173 females), sta. 3 (11 females), sta. 4 (4 females), sta. 5 (8 males, 30 females).
- Neotrichia okopa* Ross. Eight females were taken at sta. 5 on 5 July, 1975.
- Ochrotrichia arva* (Ross)*. Adults—May, June; sta. 3 (1 male), sta. 4 (4 males), sta. 5 (8 males).
- O. sp.* (*confusa* (Morton)?). Seventy-two females tentatively identified to this species were collected at sta. 5 on 13 June, 1975.

- O. spinosa* (Ross)*. Adults—June, July; sta. 2 (8 females), sta. 3 (2 males, 1 female), sta. 4 (4 males, 62 females), sta. 5 (24 males, 20 females).
- O. wojcickyi* Blickle. Adults—June, July; sta. 4 (6 males). This species, like *Hydroptila jackmanni*, was rather common along tributary streams.

Family POLYCENTROPODIDAE

- Polycentropus cinereus* Hagen. Adults—May to September; sta. 1 (8 males, 8 females), sta. 2 (26 males, 5 females), sta. 3 (9 males, 4 females), sta. 4 (22 males, 8 females), sta. 5 (5 males).
- P. confusus* Hagen. Adults—May to September; sta. 1 (5 males, 4 females), sta. 2 (23 males, 4 females), sta. 3 (10 males, 6 females), sta. 4 (10 males, 3 females), sta. 5 (24 females).
- P. crassicornis* Walker. One male was taken at sta. 1 on 23 May, 1975.
- P. sp. (nascotius* Ross?). One female tentatively identified as this northern species was collected at sta. 2 on 29 August, 1974.
- P. penius* Ross*. Adults—May, June, August; sta. 2 (16 males, 4 females), sta. 3 (5 males), sta. 4 (12 males), sta. 5 (34 males).
- P. remotus* Banks. Two females were taken at sta. 1 on 30 May, 1975.
- Nyctiophylax moestus* Banks*. Adults—May to September; sta. 1 (20 males, 18 females), sta. 2 (62 males, 2149 females), sta. 3 (63 males, 513 females), sta. 4 (114 males, 337 females), sta. 5 (76 males, 221 females). Immatures—January to April, August to November; sta. 2 (5), sta. 3 (7), sta. 4 (1), sta. 5 (6).
- Cyrnellus fraternus* (Banks)*. Adults—August; sta. 5 (4 males). Immatures—All year except September; sta. 2 (4), sta. 3 (6), sta. 4 (4), sta. 5 (2).

Family PSYCHOMYIIDAE

- Lype diversa* (Banks)*. Adults—May, July, August; sta. 3 (2 females), sta. 4 (7 males, 6 females), sta. 5 (14 females).

Family HYDROPSYCHIDAE

- Hydropsyche betteni* Ross*. Adults—May to September; sta. 1 (37 males, 83 females), sta. 2 (107 males, 327 females), sta. 3 (28 males, 72 females), sta. 4 (18 males, 27 females), sta. 5 (41 males, 224 females). Immatures—All year; sta. 2 (109), sta. 3 (12), sta. 4 (10), sta. 5 (186).
- H. bronta* Ross*. Adults—May to September; sta. 1 (3 males, 21 females), sta. 2 (206 males, 410 females), sta. 3 (31 males, 80 females), sta. 4 (54 males, 209 females), sta. 5 (37 males, 139 females). Immatures (pupae)—April to September; sta. 2 (6), sta. 3 (6), sta. 4 (2), sta. 5 (9).
- H. cheilonis* Ross. One male was taken at sta. 5 on 25 August, 1974.
- H. sp. (dicantha* Ross?). Adults—September; sta. 3 (1 female), sta. 4 (1 female). Identification of these two females is tentative.
- H. slossonae* Banks*. Adults—May to September; sta. 1 (1 female), sta. 2 (24 males, 192 females), sta. 3 (25 males, 87 females), sta. 4 (286 males, 583 females), sta. 5 (247 males, 1030 females). Immatures—All year; sta. 2 (1), sta. 3 (46), sta. 4 (84), sta. 5 (390). This species was particularly common in the sewage-enriched areas below Harmon Brook.
- H. sparna* Ross. Adults—May to August; sta. 3 (3 females), sta. 4 (9 females), sta. 5 (4 females).
- H. sp. (walkeri* Betten and Mosely?). Two females tentatively identified to this species were collected at sta. 4 on 25 August, 1974.
- Cheumatopsyche aphantia* Ross. Adults—June, August; sta. 2 (32 females), sta. 3 (1 female), sta. 4 (72 females), sta. 5 (72 females).

- C. halima* Denning*. Adults—May to September; sta. 1 (2 females), sta. 2 (256 males, 249 females), sta. 3 (14 males, 86 females), sta. 4 (891 males, 1873 females), sta. 5 (740 males, 2111 females). Immatures (pupae)—April to August; sta. 2 (12), sta. 3 (4), sta. 4 (7), sta. 5 (3). This was another species that became particularly abundant in areas below Harmon Brook.
- C. sp. (harwoodi harwoodi* Denning?). Two females tentatively identified to this species were taken at sta. 5 on 17 August, 1974.
- C. oxa* Ross*. Adults—May to September; sta. 1 (11 females), sta. 2 (134 males, 536 females), sta. 3 (74 males, 506 females), sta. 4 (22 males, 394 females), sta. 5 (37 males, 279 females).
- C. pettiti* (Banks)*. Adults—May to September; sta. 1 (212 males, 1602 females), sta. 2 (768 males, 2773 females), sta. 3 (48 males, 682 females), sta. 4 (27 males, 330 females), sta. 5 (68 males, 376 females). This was the most abundant species encountered. In contrast to *C. halima*, it occurred primarily in areas above Harmon Brook.
- Diplectrona modesta* Banks. One male was taken at sta. 3 on 11 July, 1975.

Family PHRYGANEIDAE

- Banksiola crotchi* Banks. Adults—June, July; sta. 3 (1 female), sta. 4 (4 males, 1 female), sta. 5 (9 males, 5 females).
- B. dossuaria* (Say). Adults—June, July; sta. 1 (4 males), sta. 2 (8 males, 8 females), sta. 3 (4 females), sta. 4 (2 males, 4 females).
- Ptilostomis ocellifera* (Walker). Adults—June to August; sta. 1 (1 male, 29 females), sta. 2 (11 females), sta. 3 (2 females), sta. 4 (1 male), sta. 5 (3 males).
- P. postica* (Walker). Adults—June to September; sta. 1 (1 male), sta. 2 (1 male), sta. 3 (1 male, 1 female), sta. 4 (1 male, 1 female), sta. 5 (1 female).
- P. semifasciata* (Say). Adults—June to August; sta. 1 (2 males), sta. 2 (1 female), sta. 3 (2 males, 4 females), sta. 4 (4 males, 13 females), sta. 5 (1 male, 5 females).
- Phryganea sayi* Milne. Adults—July to September; sta. 1 (2 males), sta. 2 (2 males, 2 females), sta. 3 (3 males, 1 female), sta. 4 (3 males), sta. 5 (3 males).

Family MOLANNIDAE

- Molanna blenda* Sibley. Adults—July; sta. 2 (4 males), sta. 5 (6 males).

Family ODONTOCERIDAE

- Psilotreta indecisa* (Walker)*. Adults—May, June; sta. 3 (5 females), sta. 4 (9 males). Immatures—October, November, April, May; sta. 3 (1), sta. 4 (3).

Family LEPTOCERIDAE

Although no immature stage of any species of this family was taken, some species of *Ceraclea* are known to feed on fresh water sponges (Resh, 1976), a few colonies of which occurred occasionally in riffle areas at the lower stations. Although larvae of some of the species are believed to inhabit the stream, other species represent light trap captures of individuals emerging from nearby lentic habitats.

- Triaenodes abus* Milne. Adults—June, July; sta. 4 (38 females), sta. 5 (76 females).
- T. dipsius* Rosa. One male was taken at sta. 4 on 25 August, 1974.
- T. ignitus* (Walker). Adults—June to September; sta. 2 (2 males, 16 females), sta. 3 (3 males, 31 females), sta. 4 (2 males, 36 females), sta. 5 (16 males, 46 females).
- T. injustus* (Hagen). Adults—May to September; sta. 1 (4 males, 53 females), sta. 2 (29 males, 37 females), sta. 3 (2 males, 4 females), sta. 4 (8 females), sta. 5 (4 males, 4 females).

- T. marginatus* Sibley. Adults—May to September; sta. 1 (1 male, 70 females), sta. 2 (181 males, 110 females), sta. 3 (1 male, 18 females), sta. 4 (13 females), sta. 5 (11 males, 66 females).
- T. nox* Ross. Adults—June, July; sta. 2 (8 males), sta. 4 (38 males).
- T. tardus* Milne. Adults—May to August; sta. 1 (11 males, 4 females), sta. 2 (5 females), sta. 4 (1 female), sta. 5 (28 males, 20 females).
- Ceraclea alagma* (Ross). Adults—June, July; sta. 1 (5 males).
- C. diluta* (Hagen). Adults—May; sta. 3 (2 females), sta. 4 (3 males).
- C. resurgens* (Walker). Adults—June; sta. 1 (8 females), sta. 3 (8 males, 8 females). This species is known to be a sponge-feeder (Resh, 1976).
- C. tarsipunctata* (Vorhies). Adults—June to August; sta. 1 (24 females, sta. 4 (5 females), sta. 5 (13 males, 47 females).
- C. transversa* (Hagen). Adults—June to August; sta. 1 (10 females), sta. 2 (12 females), sta. 3 (2 males, 4 females), sta. 4 (4 males), sta. 5 (32 males, 20 females). This sex ratio of 55:45 females to males agrees closely with the ratio reported by Resh (1976) for this species at light; a 50:50 ratio being rather unusual in light trap data. Larvae of this species feed on freshwater sponges (Resh, 1976).
- Leptocerus americanus* (Banks). Adults—June to August; sta. 1 (24 males, 82 females), sta. 2 (12 males, 24 females), sta. 3 (17 males, 37 females), sta. 4 (2 males, 4 females), sta. 5 (95 males, 112 females).
- Nectopsyche* spp. [including *albida* (Walker)]. All 496 individuals of this genus collected were taken at sta. 1 between late May and mid-June. Because the wing markings used for species determination were often obscured during handling of large light trap samples, most specimens could not be identified. Some 100 specimens were determined to be *Nectopsyche albida*.
- Oecetis cinerascens* (Hagen). Adults—June, August; sta. 1 (5 males, 4 females), sta. 4 (1 female), sta. 5 (10 males).
- O. inconspicua* (Walker). Adults—May to September; sta. 1 (305 males, 232 females), sta. 2 (314 males, 351 females), sta. 3 (40 males, 115 females), sta. 4 (88 males, 77 females), sta. 5 (50 males, 66 females).

Family LIMNEPHILIDAE

- Ironoquia lyrata* (Ross). One male was obtained at sta. 4 on 13 August, 1975, in a light trap sample taken between midnight and 2:00 A.M.
- I. parvula* (Banks). One male was taken at sta. 4 in early October.
- I. punctatissima* (Walker). Adults—August, September; sta. 1 (19 males, 1 female), sta. 2 (35 males, 8 females), sta. 3 (4 males, 1 female), sta. 4 (6 males). Larvae of *Ironoquia* collected at sta. 1, 2, and 5 were also tentatively identified to this species.
- Neophylax concinnus* McLachlan*. Adults—September, October; sta. 3 (13 males, 4 females), sta. 4 (11 males). Immatures—March, April; sta. 2 (1), sta. 3 (8), sta. 4 (5), sta. 5 (1).
- N. oligus* Ross*. Adults—September, October, sta. 3 (12 females), sta. 4 (5 males, 7 females). Immatures—All year except September and February; sta. 2 (2), sta. 3 (32), sta. 4 (35), sta. 5 (4).
- Limnephilus consocius* (Walker). Adults—June, September, October; sta. 2 (1 male, 2 females), sta. 3 (1 male), sta. 4 (1 male, 3 females). Two of the specimens collected at sta. 4 were obtained from emergence traps placed in vernal pools.
- L. indivisus* (Walker). Adults—May, June, September, October; sta. 1 (3 males), sta. 2 (5 males, 2 females) sta. 3 (3 males), sta. 4 (3 males, 8 females). Eight of the specimens of this species taken at sta. 4 were from vernal pools. Reported habitats of members of this genus include marshes and temporary pools (Flint, 1960); larvae of this genus probably do not inhabit the stream.
- L. submonilifer* (Walker). Adults—May, October; sta. 3 (2 males), sta. 4 (1 male, 3 females).

- Platycentropus radiatus* (Say)*. Adults—June, July; sta. 1 (31 females), sta. 2 (18 males), sta. 3 (1 female). Immatures—October to March; sta. 1 (27), sta. 2 (19), sta. 3 (1), sta. 4 (9), sta. 5 (3). Immatures of this lentic species were fairly common at sta. 1; however, specimens were sometimes taken in areas of over-hanging vegetation along the stream margins at the other stations.
- Hydatophylax argus* (Harris)*. Adults—June; sta. 2 (8 females), sta. 3 (1 male, 1 female), sta. 5 (8 females). Immatures—May, June, December; sta. 3 (2). Immatures of this large species were most common in small tributary streams less than 1 m wide occurring in the vicinity of sta. 4.
- Pycnopsyche divergens* (Walker). Adults—May, September; sta. 2 (3 males).
- P. guttifer* (Walker). Adults—September, October; sta. 3 (33 males, 9 females), sta. 4 (16 males, 3 females), sta. 5 (5 males, 2 females).
- P. lepida* (Hagen)*. Adults—August to October; sta. 1 (1 female), sta. 2 (8 males, 6 females), sta. 3 (50 males, 33 females), sta. 4 (31 males, 35 females), sta. 5 (12 males, 26 females). Immatures identified as "*P. lepida* group" were often found in riffle areas, especially at sta. 4.
- P. luculenta* (Betten). Adults—September, October; sta. 4 (4 males, 1 female).
- P. scabripennis* (Rambur). Adults—July to October; sta. 2 (2 males, 1 female), sta. 3 (40 males, 4 females), sta. 4 (61 males, 3 females), sta. 5 (4 males).

Family HELICOPSYCHIDAE

- Helicopsyche borealis* (Hagen)*. Adults—June to September; sta. 2 (2 males, 3 females), sta. 3 (10 males, 1 female), sta. 4 (58 males, 73 females), sta. 5 (42 males, 56 females). Immatures—January to March, May, August, October; sta. 3 (5), sta. 4 (67). This was another species that was much more common in areas below Harmon Brook than above it, apparently in response to the enriched conditions present in the river below Harmon Brook.

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