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## **New state species records and noteworthy re-captures of Michigan (USA) Trichoptera**

### **Cover Page Footnote**

Funding for this study was supported by a grant from the Huron Mountains Wildlife Foundation, a Faculty Summer Leave grant from Hillsdale College, and funds from the Hillsdale College biology department. I thank Erin Flaherty, Ryan Lardner, and Mary Clare Smith for their efforts in collecting many of the specimens reported herein. This is paper #23 of the GH Gordon BioStation Research Series.

## New State Species Records and Noteworthy Re-captures of Michigan (USA) Trichoptera

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### Abstract

Ten caddisfly species are reported from Michigan for the first time, including 5 in the family Limnephilidae [*Limnephilus femoralis* Kirby, *L. thorus* Ross, *Pycnopsyche aglona* Ross, *P. circularis* (Provancher), and *P. limbata* (McLachlan)], 2 in the Polycentropodidae (*Cernotina pallida* (Banks) and *Holocentropus glacialis* Ross), 1 in the Hydroptilidae (*Hydroptila fiskei* Blickle), 1 in the Leptoceridae (*Triadenodes perna* Ross), and 1 in the Rhyacophilidae (*Rhyacophila angelita* Banks). An additional 5 unique species, including several not seen in MI for over 70 years, are confirmed to be extant in the state, most notably *Plectrocnemia sabulosa* (Leonard & Leonard), MI's only known endemic caddisfly. The state is now known to contain 305 caddisfly species.

**Keywords:** Trichoptera, caddisfly, Michigan, species, record

The caddisflies of Michigan are relatively well known. The most recent statewide checklist (Houghton et al. 2018) documented 295 species, including 41 state species records. These species were compiled from almost 700 collections dating back to the 1930s, and including substantial sampling during the 2010s.

The vast majority of the aforementioned collections have occurred during the summer months. For example, my students and I have sampled several hundred lakes and streams throughout the state since 2010; however, due to inclement weather and the beginning of the academic year, only 6 of these sites have been sampled during the autumn flight period. While the autumn flight period includes far fewer species than the summer flight period, it also features many species unique to it, particularly within the families Limnephilidae and Thremmatidae (Houghton 2018).

Furthermore, MI is a large state that still contains regions with low collecting effort. For example, when I began this study only 20 caddisfly species had been reported from the remote Huron Mountains of the Upper Peninsula (Woods 2015). Thus, the objective of this study was to visit areas and seasons not normally collected, to attempt to find additional species not documented by the recent state checklist.

### Materials and Methods

Most of the records noted herein are from sampling in the Huron Mountains.

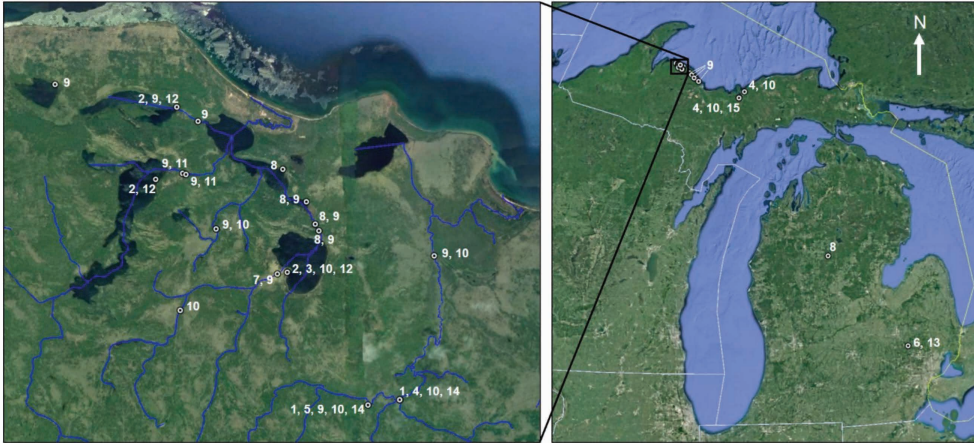
Other records have come from a variety of other collecting sites throughout the state (Fig. 1). In particular, a series of September collections was made at sites in the Huron Mountains and Munising area of the Upper Peninsula, and the Manistee River region of the Lower Peninsula. Dates of these collections ranged 05–30 September 2019. All reported specimens were collected using 8-watt portable ultraviolet light traps. These traps were deployed at dusk and retrieved 1–2 h later. All reported specimens are housed in the Hillsdale College Insect Collection.

### Results

A total of 10 new species records for MI are reported herein. In addition, 5 other unique species, some not seen in MI for over 70 years, are confirmed to be extant in the state. Collecting information is included with each species account. The number assigned to each species corresponds to the collecting localities in Fig. 1.

### Family Hydropsychidae

**1. *Arctopsyche ladogensis* (Kolenati, 1859).** This species has a Holarctic distribution (Cushman 2014). It is known in MI from several collections of larvae in Houghton, Marquette, and Ontonagon Counties, mostly from the 1930s–1940s, and most recently by Yanoviak and McCafferty (1996). The only reported adult collection was from the North Branch of the Otter River in Houghton County in 1949. It is reported herein from



**Figure 1.** Maps of MI collecting localities for the species noted herein, showing detail of the Huron Mountains habitats. Numbers correspond to the numbers before each species account; thus, the map shows how many species were found at each locality. Basemaps: © 2020 Google Image, © 2020 TerraMetrics Image NOAA.

two adjacent sites of the Salmon Trout River in Marquette County. Only female specimens were collected, which were identified using Givens and Ruitter (2015). Interestingly, specimens were abundant in late June 2019, but absent in July of the same year. The species has not been recorded from any adjacent states or provinces, despite substantial searching in expected habitats of northern MN and WI (Schmude and Hilsenhoff 1986, MacLean 1995, Houghton 2012).

**MATERIAL EXAMINED.** Marquette County: Salmon Trout River, below Middle Rapids, Huron Mountain Club, 46.8100, –87.8245, 26 June 2019, Houghton et al., uv light, 5♀; Salmon Trout River, Lower Dam, Huron Mountain Club, 46.8114, –87.8125, 26 June 2019, 79 ♀.

#### Family Hydroptilidae

**2. *Hydroptila fiskei* Blickle 1963.** NEW STATE RECORD. This species is reported herein from MI for the first time based on specimens collected from 4 lakes and 1 stream in Marquette County. It has previously been recorded from the eastern US (Rasmussen and Morse 2018), as well as northern MN and southern ON (unpublished data).

**MATERIAL EXAMINED** Marquette County: Ives Lake, Ives Lake Road, Huron Mountain Club, at Stonehouse, 46.8439, –87.8547, 23 July 2019, Houghton et al., uv light, 3♂; Rush Lake, East side boathouse, Huron Mountain Club, 46.8869, –87.8967, 29 June 2019, Houghton et al., uv light, 2♂; Mountain Lake, boathouse on Mountain Lake Road, Huron Mountain Club, 46.8681, –87.9043, 24 July 2019, Houghton et al., uv light, 2♂; Second Pine Lake, east

boathouse, Huron Mountain Club, 46.8705, –87.8567, 19 September 2019, Houghton et al., uv light, 1♂.

#### Family Leptoceridae

**3. *Triadenodes perna* Ross 1938.** NEW STATE RECORD. This species is known throughout the eastern US and southern Canada, including IL, OH, and ON (Rasmussen and Morse 2018). It is reported herein from MI for the first time based on a single specimen collected from Ives Lake in Marquette County.

**MATERIAL EXAMINED.** Marquette County: Ives Lake, Ives Lake Road, at Stonehouse, Huron Mountain Club, 46.8439, –87.8547, 23 July 2019, Houghton et al., uv light, 1♂.

#### Family Limnephilidae

**4. *Asynarchus rossi* (Leonard and Leonard 1949).** This species was first described from specimens collected from the Au Sable River in Crawford County. Leonard and Leonard (1949) also reported specimens from Hunt Creek in Montmorency County. It is reported herein from several collections in Alger and Marquette Counties. These records constitute the first MI collections of the species in over 70 years, as well as the first from the Upper Peninsula. The species is known primarily from the northcentral US, including MN and WI (Rasmussen and Morse 2018). All previous adult collections have occurred during autumn (Karl and Hilsenhoff 1979, Houghton 2012).

**MATERIAL EXAMINED.** Alger County: Wagner Falls of Wagner Creek, MI 94/28, public ac-

cess, 46.3881, -86.6461, 21 September 2019, Houghton et al., uv light, 4♂; Alger Falls, MI 94, 46.3933, -86.6482, 21 September 2019, Houghton et al., uv light, 19♂, 4♀; Marquette County: Salmon Trout River, Lower Dam, Huron Mountain Club, 46.8114, -87.8125, 16 September 2019, Houghton et al., uv light, 5♂.

**5. *Limnephilus femoralis* Kirby 1837.** NEW STATE RECORD. This species has a northern Holarctic distribution, and has previously been recorded from ME and WA (Rasmussen and Morse 2018), as well as WI (unpublished data). It is reported herein from MI for the first time based on a single specimen collected from the Salmon Trout River in Marquette County.

MATERIAL EXAMINED. Marquette County: Salmon Trout River, Middle Falls, Huron Mountain Club, 46.8100, -87.8245, 28 June 2015, Houghton et al., uv light, 1♀.

**6. *Limnephilus perpusillus* Walker 1852.** This species is known from MI based on a series of collections from the ES George Reserve in Livingston County during the 1940s and maintained in the University of Michigan Museum of Zoology. It is reported herein based on a single specimen from Duck Creek in Oakland County. This record constitutes the first MI collection of the species in over 70 years. The species is known from throughout Canada and the northern US, including MN, OH, ON, and WI (Rasmussen and Morse 2018).

MATERIAL EXAMINED. Oakland County: Duck Creek, Bird Road, near Ortonville, 42.8125, -83.4706, 06 July 2015, Houghton et al., uv light, 1♂.

**7. *Limnephilus thorus* Ross 1938.** NEW STATE RECORD. This species is reported herein from MI collected from Elm Creek in Marquette County. While known primarily from the western US, it has also been reported from MN (Rasmussen and Morse 2018). All collections from MI and MN have occurred during autumn (Houghton 2012).

MATERIAL EXAMINED. Marquette County: Elm Creek, near Stonehouse at Ives Lake, Huron Mountain Club, 46.8439, -87.8586, 18 September 2019, Houghton et al., uv light, 1♂.

**8. *Pycnopsyche aglona* Ross 1941.** NEW STATE RECORD. This species is known from southern Canada and the northeastern US, including MN, OH, ON, and WI (Rasmussen and Morse 2018). It is reported herein from MI for the first time based on collections in Clare and Marquette Counties. All collections occurred in autumn.

MATERIAL EXAMINED. Clare County: Cranberry Creek, West Wilson Road / Muskegon Road, 44.1326, -84.9474, 05 September 2019, Houghton et al., uv light, 2♂; Marquette County: River Styx, base of cascade, Huron Mountain Club, 46.8550, -87.8428, 16 September 2019, Houghton et al., uv light, 6♂; River Styx, access bridge off of main road, Huron Mountain Club, 46.8567, -87.8446, 16 September 2019, Houghton et al., uv light, 79♂ 6♀; Third Pine Lake, eastern shore picnic area, Huron Mountain Club, 46.8626, -87.8475, 19 September 2019, Houghton et al., uv light, 7♂; Second Pine Lake, east boathouse, Huron Mountain Club, 46.8705, -87.8567, 19 September 2019, Houghton et al., uv light, 1♂.

**9. *Pycnopsyche circularis* (Provancher 1877).** NEW STATE RECORD. This species is known from the eastern US, including OH and WI (Rasmussen and Morse 2018). It is reported herein from MI for the first time based on many collections throughout Marquette County. All collections occurred in autumn.

MATERIAL EXAMINED. Marquette County: River Styx, base of cascade, Huron Mountain Club, 46.8550, -87.8428, 16 September 2019, Houghton et al., uv light, 16♂; Salmon Trout River, entrance Bridge, Huron Mountain Club, 46.8485, -87.7989, 16 September 2019, Houghton et al., uv light, 21♂; Salmon Trout River, Middle Falls, Huron Mountain Club, 46.8100, -87.8245, 16 September 2019, Houghton et al., uv light, 13♂; River Styx, access bridge off of main road, Huron Mountain Club, 46.8567, -87.8446, 16 September 2019, Houghton et al., uv light, 23♂; Howe Lake, Boathouse on northeast corner, Huron Mountain Club, 46.8932, -87.9436, 17 September 2019, Houghton et al., uv light, 1♂; Rush Lake, Boathouse on east side, Huron Mountain Club, 46.8869, -87.8967, 17 September 2019, Houghton et al., uv light, 27♂; Mountain Stream, at Bridge, Mountain Lake Road, Huron Mountain Club, 46.8699, -87.8946, 17 September 2019, Houghton et al., uv light, 18♂; Elm Creek, near Stonehouse at Ives Lake, Huron Mountain Club, 46.8439, -87.8586, 18 September 2019, Houghton et al., uv light, 13♂; Fisher Creek, off of Ives Lake Road, Huron Mountain Club, 46.8555, -87.8819, 18 September 2019, Houghton et al., uv light, 3♂; Rush Creek, Mountain Lake Road, Huron Mountain Club, 46.88361, -87.8889, 19 September 2019, Houghton et al., uv light, 6♂; Mountain Stream, below waterfall, off of Mountain Lake Road, Huron Mountain Club, 46.8692, -87.8933, 19 September 2019, Houghton et al., uv light, 6♂; Third Pine Lake, eastern shore picnic area, Huron Mountain Club, 46.8626, -87.8475, 19 September 2019, Houghton et al., uv light, 2♂; Little Garlic River, County Road 550 / Big Bay Road, 46.6739, -87.5412, 20 September 2019, Houghton et al., uv light, 5♂; Yellow Dog River, County Road 550, 46.7568, -87.6616, 20 September 2019, Houghton et al., uv light, 3♂; Big Garlic

River, dirt road off of County Road 550 / Big Bay Road, 46.6832, –87.5700, 20 September 2019, Houghton et al., uv light, 5♂; Wilson Creek, Highway 550 / Big Bay Road, 46.7288, –87.6216, 20 September 2019, Houghton et al., uv light, 1♂; Harlow Creek, County Road 550, 46.6327, –87.4753, 20 September 2019, Houghton et al., uv light, 1♂.

**10. *Pycnopsyche limbata* (McLachlan 1871).** NEW STATE RECORD. This species is known from southern Canada and the northeastern US, including MN, ON, and WI (Rasmussen and Morse 2018). It is reported herein from MI for the first time based on several collections in Alger and Marquette Counties. All collections occurred in autumn.

MATERIAL EXAMINED. Alger County: Wagner Falls, Wagner Creek, MI 94/28, public access, 46.3881, –86.6461, 21 September 2019, Houghton et al., uv light, 1♂; Falls, Miners River, 46.4747, –86.5314, 21 September 2019, Houghton et al., uv light, 4♂; Downstream of Miners Falls, near scenic overlook, 46.4748, –86.5314, 21 September 2019, Houghton et al., uv light, 7♂; Alger Falls, MI 94, 46.3933, –86.6482, 21 September 2019, Houghton et al., uv light, 2♂; Marquette County, Salmon Trout River, Lower Dam, Huron Mountain Club, 46.8114, –87.8125, 16 September 2019, Houghton et al., uv light, 1♂; Salmon Trout River, entrance Bridge, Huron Mountain Club, 46.8485, –87.7989, 16 September 2019, Houghton et al., uv light, 4♂; Salmon Trout River, Middle Falls, Huron Mountain Club, 46.8100, –87.8245, 16 September 2019, Houghton et al., uv light, 1♂; South Fork of Elm Creek, off of Ives Lake Road, Huron Mountain Club, 46.8345, –87.8955, 18 September 2019, Houghton et al., uv light, 2♂; Fisher Creek, off of Ives Lake Road, Huron Mountain Club, 46.8555, –87.8819, 18 September 2019, Houghton et al., uv light, 3♂; Ives Lake, Ives Lake Road, at Stonehouse, Huron Mountain Club, 46.8439, –87.8547, 19 September 2019, Houghton et al., uv light, 1♂.

#### Family Odontoceridae

**11. *Psilotreta indecisa* (Walker, 1852).** This species was first reported from MI by Bright and Bidlack (1998) based on a series of adults from the Huron River in Oakland County, and from larval specimens from the Escanaba River in Delta County and the Little Siskiwit River in Keweenaw County. It is reported herein from 2 localities in close proximity to each other of Mountain Stream in Marquette County. Interestingly, specimens were abundant at both sites in late June 2019, but absent in July of the same year. The species is known from throughout Canada and the northern US, including MN,

OH, ON, and WI (Rasmussen and Morse 2018).

MATERIAL EXAMINED. Marquette County: Mountain Stream, at Bridge on Mountain Lake Road, Huron Mountain Club, 46.8699, –87.8946, 25 June 2019, Houghton et al., uv light, 49♂; Marquette County: Mountain Stream, below waterfall on Mountain Lake Road, Huron Mountain Club, 46.8692, –87.8933, 25 June 2019, Houghton et al., uv light, 52♂, 2♀.

#### Family Polycentropodidae

**12. *Cerrotina pallida* (Banks 1904).** NEW STATE RECORD. This species is known primarily from the eastern coast of the US, but has also been found in OH and ON (Rasmussen and Morse 2018). It is reported herein from MI for the first time based on collections of three lakes in Marquette County.

MATERIAL EXAMINED. Marquette County: Ives Lake, Ives Lake Road, Huron Mountain Club, at Stonehouse, 46.8439, –87.8547, 23 July 2019, Houghton et al., uv light, 6♂; Rush Lake, East Boathouse, Huron Mountain Club, 46.8869, –87.8967, 29 June 2019, Houghton et al., uv light, 31♂; Mountain Lake, Boathouse on Mountain Lake Road, Huron Mountain Club, 46.8681, –87.9043, 24 July 2019, Houghton et al., uv light, 1♂.

**13. *Holocentropus glacialis* Ross 1938.** NEW STATE RECORD. This species was erroneously reported from MI by Leonard and Leonard (1949) based on a specimen of *Plectrocnemia cinerea* (Hagen) housed in the Illinois Natural History Survey that was misidentified as *H. glacialis* (Houghton et al. 2018). It is reported herein from MI for the first time based on two males collected from Duck Creek in Oakland County. It is also known from IL, IN, MN, and WI (Rasmussen and Morse 2018).

MATERIAL EXAMINED. Oakland County: Duck Creek, Bird Road, near Ortonville, 42.8125, –83.4706, 06 July 2015, Houghton et al., uv light, 2♂

**14. *Plectrocnemia sabulosa* (Leonard and Leonard 1949).** This species is MI's only known endemic caddisfly. It was described from specimens collected from the Au Sable River in Crawford County in 1948, found at several sites along Houghton Creek in Ogemaw County from 1951–1953 (Ellis 1962), and has not been reported anywhere since. It is reported herein from two adjacent sites of the Salmon Trout River in Marquette County. These records constitute the first captures of the species in almost 70 years, as well as the first from the Upper Peninsula. The latter observation

suggests that *P. sabulosa* may also exist in northern WI.

**MATERIAL EXAMINED.** Marquette County: Salmon Trout River, below Middle Rapids Huron Mountain Club, 46.8100, -87.8245, 26 June 2019, Houghton et al., uv light, 8♂; Salmon Trout River, Lower Dam, Huron Mountain Club, 46.8114, -87.8125, 26 June 2019 2♂.

### Family Rhyacophilidae

**15. *Rhyacophila angelita* Banks 1911.** NEW STATE RECORD. This species is found mostly in the western US and Canada, although it has also been reported from MN, NH, and QC (Rasmussen and Morse 2018). It is reported herein from MI for the first time based on a single specimen collected from Wagner Falls in Alger County.

**MATERIAL EXAMINED.** Alger County: Wagner Falls of Wagner Creek, MI 94/28, public access, 46.3881, -86.6461, 21 September 2019, Houghton et al., uv light, 1♂.

### Discussion

This paper demonstrates the importance of collecting throughout multiple flight seasons. For example, the 3 autumn-flying species of *Pycnopsyche* documented herein for the first time in MI actually appear to be fairly common. *Pycnopsyche circularis*, in particular, was found at the majority of Upper Peninsula sites collected during September 2019. *Pycnopsyche aglona* was found in both the Upper and Lower Peninsulas. Lack of previous documentation of these species was almost certainly due to a lack of collecting during autumn. Similarly, *A. ladogensis* and *P. indecisa* were abundant in June, but absent in July, demonstrating the importance of sampling during the early flight season.

The paper also demonstrates the importance of continued collecting, even in a state as well-documented as MI. Twelve of the 15 species mentioned in this paper were found in the remote and poorly-collected Huron Mountains, among other places. Another 2 species were found exclusively in a neighborhood stream outside of metro Detroit. Since it is difficult to predict which habitats will contain new or unique species, the best approach is to collect from as many habitats as possible.

The state of MI is now known to contain 305 caddisfly species, notably more than the adjacent states of MN (277) and OH (270). While not perfectly equivalent, all 3 states have had an extensive recent collecting effort (Armitage et al. 2011, Houghton 2012). Considering that 67 new state record caddisflies have been documented in MI during the last

10 years (Houghton et al. 2011, DeWalt and South 2015, Houghton 2016, Houghton et al. 2018) additional unknown species probably remain to be discovered.

### Acknowledgments

Funding for this study was supported by a grant from the Huron Mountain Wildlife Foundation, a Faculty Summer Leave grant from Hillsdale College, and funds from the Hillsdale College biology department. I thank Erin Flaherty, Ryan Lardner, and Mary Clare Smith for their efforts in collecting many of the specimens reported herein. This is paper #23 of the GH Gordon BioStation Research Series.

### Literature Cited

- Armitage B.J., Harris S.C., Schuster G.A., Usis J.D., MacLean D.B., Foote B.A., Bolton M.J., Garono R.J. 2011.** Atlas of Ohio aquatic insects, Volume 1: Trichoptera. Ohio Biological Survey Miscellaneous Contributions, 13.
- Bright E., Bidlack D. 1998.** *Psilotreta indecisa* and *Agarodes distinctus* (Trichoptera: Odonoceridae, Sericostomatidae): new state records and notes on the habitat of these species in Michigan. The Great Lakes Entomologist 31: 199–200.
- Cushman R.M. 2014.** Biogeography of the caddisfly genus *Arctopsyche* McLachlan, 1868 (Trichoptera: Hydropsychidae) in North America. The Pan-Pacific Entomologist 90: 174–181.
- DeWalt R.E., South E.J. 2015.** Ephemeroptera, Plecoptera, and Trichoptera in Isle Royale National Park, USA, compared to mainland species pool and size distribution. Zookeys 532: 137–158.
- Ellis R.J. 1962.** Adult caddisflies (Trichoptera) from Houghton Creek, Ogemaw County, Michigan. Occasional papers of the Museum of Zoology, University of Michigan 624: 1–16.
- Givens D.R., Ruiter D.E. 2015.** Clarification of the taxonomic status and distribution of *Arctopsyche inermis* Banks, 1943 and *Arctopsyche ladogensis* (Kolenati, 1859) (Trichoptera: Hydropsychidae: Arctopsychinae). The Pan-Pacific Entomologist 91: 192–195.
- Houghton D.C. 2012.** Biological diversity of Minnesota caddisflies. ZooKeys Special Issues 189: 1–389.
- Houghton D.C. 2016.** The caddisflies (Trichoptera) of an undisturbed Lower Michigan habitat. The Great Lakes Entomologist 49: 41–54.
- Houghton D.C. 2018.** When to sample adult caddisflies: data from a five-year study of a

- first-order Michigan (USA) stream. *Journal of Freshwater Ecology* 33: 211–221.
- Houghton D.C., Brandin C.M., Brakel K.A. 2011.** Analysis of the caddisflies (Trichoptera) of the Manistee River watershed, Michigan. *Great Lakes Entomologist* 44: 1–15.
- Houghton D.C., DeWalt W.E., Pytel A.J., Brandin C.M., Rogers S.R., Hudson P.L., Ruiter D.E., Bright E., Armitage B.J. 2018.** Updated checklist of the Michigan caddisflies (Insecta: Trichoptera) with regional and habitat affinities. *ZooKeys* 730: 55–72.
- Karl T.S., Hilenhoff W.L. 1979.** The caddisflies (Trichoptera) of Parfrey's Glen Creek, Wisconsin. *Wisconsin Academy of Science, Arts, and Letters* 67: 31–42.
- Leonard J.W., Leonard F.A. 1949.** An annotated list of Michigan Trichoptera. *Occasional papers of the Museum of Zoology, University of Michigan* 522: 1–36.
- MacLean D.B. 1995.** Adult Trichoptera of the Devil Track River Watershed, Cook County, Minnesota and their role in biomonitoring. *Great Lakes Entomologist* 28: 135–154.
- Rasmussen A.K., Morse J.C. 2018.** Distributional checklist of Nearctic Trichoptera (August 2018 Revision). Unpublished, Florida A&M University, Tallahassee. 506 pp. [Available at <http://www.trichoptera.org>].
- Schmude K.L., Hilsenhoff W.L. 1986.** Biology, ecology, larval taxonomy, and distribution of Hydropsychidae (Trichoptera) in Wisconsin. *The Great Lakes Entomologist* 19: 123–145.
- Woods K.D. 2015.** An all-taxa biodiversity inventory of the Huron Mountain Club. Version January 2015. *Occasional papers of the Huron Mountain Wildlife Foundation*, No. 5.
- Yanoviak S.P., McCafferty W.P. 1996.** Comparison of macroinvertebrate assemblages inhabiting pristine streams in the Huron Mountains of Michigan, USA. *Hydrobiologia* 330: 195–211.