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NEW AND ADDITIONAL DISTRIBUTION RECORDS FOR SEVERAL RARE
MAYFLIES (EPHEMEROPTERA) IN WISCONSIN¹Richard A. Lillie²

ABSTRACT

One nymph and one exuviae of *Acanthametropus pecatonica* were collected in June 1991 from the Black River and Chippewa River, respectively. These specimens extend the known range of this rare species in Wisconsin to three large Mississippi River tributaries. *Homoeoneuria ammophila* was recorded in Wisconsin for the first time; nymphs were collected from the Black River and Sugar River. Nymphs of *Macdunnao persimplex*, *Metretopus borealis*, *Pentagenia vittigera*, *Pseudiron centralis*, and *Cercobrachys* sp. were also encountered.

The mayfly fauna of six large rivers in the Upper Mississippi River drainage basin were surveyed between 21 May and 16 July 1991 under a cooperative agreement with the U.S. Fish & Wildlife Service to document the distribution, associated fauna, microhabitat, and population density of *Acanthametropus pecatonica* (Burks) and *Anepeorus simplex* (Walsh). *Acanthametropus pecatonica* and *Anepeorus simplex* were added to the Wisconsin Endangered and Threatened Species List on August 1, 1989. Both species are currently listed as state endangered, and both species are candidates for possible addition to the federal List of Endangered and Threatened Wildlife (Federal Register 1991). In addition to expanding the known range of *A. pecatonica*, the surveys resulted in new collection records for several other species of mayflies.

Two specimens of *Acanthametropus pecatonica* were found in large, sand-bottomed rivers, one on 10 June 1991 in the Black River above the Hwy 35 bridge (T18N:R8W:Sec.28) and another on 11 June 1991 in the Chippewa River near Durand (T25N:R13W:Sec.16). The Black River specimen, a very small nymph (5 mm), was collected from a strong, sand-bottomed eddy in water about 1 m deep, while the Chippewa River specimen, a partial exuviae, was collected as it drifted in moderately fast current above sand and fine gravel in water less than 1 m deep. All previous collections (14 specimens) in Wisconsin were from the lower Wisconsin River (Lillie et al. 1987, author's collection records). Collections of *Acanthametropus* in other states are summarized elsewhere (Lillie et al. 1987, McCafferty 1991).

Although no nymphs of *Anepeorus simplex* were encountered, several other collection records are worth noting. Numerous nymphs of *Homoeoneuria ammophila* (Spieth) were collected on 10 July 1991 from the

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Black River above Hwy 35 (T18N:R8W:Sec.28) and on 16 July 1991 from the Sugar River near Avon (T1N:R10E:Sec.27-28). They were collected below a sandbar drop-off by using an air-lift pump in water 2 m deep and in moderately fast current of the main channel with a D-frame net in water 1-1.5 m deep. Nymphs apparently were partially buried in the sand substrate as described by Pescador and Peters (1980). These collections represent the first records of this psammophilous mayfly in Wisconsin. Previously, this species was reported only from Kansas, Indiana, and Illinois (Pescador and Peters 1980).

Other notable records include *Cercobrachys* sp.? Soldan, *Macdunnhoa persimplex* (McDunnough), *Metretopus borealis* (Eaton), *Pentagenia vittigera* (Walsh), and *Pseudiron centralis* McDunnough. One nymph of *M. persimplex* was collected on 12 June 1991 from the St. Croix River near Grantsburg (T38N:R19W:Sec.7). This species has also been collected in Wisconsin from the lower Wisconsin River (Lillie and Hilsenhoff 1992). Numerous nymphs of *M. borealis* were collected on 21 May 1991 from the Chippewa River below Durand (T24N:R14W:Sec.23); the only previous record from Wisconsin was also from the Chippewa River (W. Hilsenhoff, pers. comm.). Nymphs of *P. vittigera* were found in the Pecatonica and Sugar rivers, and *Cercobrachys* sp.? and *P. centralis* nymphs were collected from the Sugar, Black, St. Croix, and Chippewa rivers.

A more complete report, listing associated fauna and describing microhabitats, will follow completion of the second year of this study.

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