

## NEW STATE MAYFLY (EPHEMEROPTERA) RECORDS FROM PENNSYLVANIA<sup>1</sup>

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**ABSTRACT:** Seven species of Ephemeroptera are reported from Pennsylvania for the first time: *Ameletus lineatus* Traver, *Epeorus fragilis* (Morgan), *Leucrocuta thetis* (Traver), *Leucrocuta umbratica* (McDunnough), *Nixe perfida* (McDunnough), *Paraleptophlebia moerens* (McDunnough) and *Paraleptophlebia ontario* (McDunnough). No male specimens of *A. lineatus* were collected. Known distributions of *L. thetis*, *L. umbratica* and *N. perfida* are widely disjunct.

An exhaustive search of the literature is required to compile the distribution records of most North American mayfly species. This is not always sufficient, though, as all scientific names in a particular publication are not necessarily indexed. Few checklists of Ephemeroptera exist for the states, provinces and regions of North America and no recently published lists exist for the northeastern United States including Pennsylvania.

Eighteen species of mayflies were collected in a study of mayfly emergence phenology in a first order Pennsylvania stream. The purpose of this paper is to report seven of these species from Pennsylvania for the first time: *Ameletus lineatus* Traver, *Epeorus fragilis* (Morgan), *Leucrocuta thetis* (Traver), *Leucrocuta umbratica* (McDunnough), *Nixe perfida* (McDunnough), *Paraleptophlebia moerens* (McDunnough) and *Paraleptophlebia ontario* (McDunnough).

All specimens were collected in a small, first order tributary of Sixmile Creek, Erie County, Pennsylvania (79° 57' 18", 42° 07' 02") in an emergence trap. A detailed site description has been published in Masteller and Flint (1980) and the trap design in Masteller (1977).

The following are reported for each species: emergence period in Roman numerals (months); year of capture; total number of male and female adults (subimagos and imagos) collected during that period; and pertinent anecdotal information.

### Siphonuridae

*Ameletus lineatus* Traver  
IV-VI 1979, 207 ♀

Only females were collected. Traver (1935) and Burks (1953) also reported collecting

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only females. Male specimens, either nymphal or adult, have not been reported for this species.

### Heptageniidae

#### *Epeorus fragilis* (Morgan)

V-VI 1978, 9 ♂, 5 ♀

This species is typically eastern in its distribution.

#### *Leucrocuta thetis* (Traver)

V-VI 1978, 12 ♂, 24 ♀

*Leucrocuta thetis* was previously known only from North and South Carolina (Traver 1935, Unzicker and Carlson 1982). This Pennsylvania record indicates a considerable northern range extension from the previously known distributions.

#### *Leucrocuta umbratica* (McDunnough)

VII-IX 1979, 1 ♂, 7 ♀

The only previously published U. S. records for this species are Peters and Warren (1966) and McCafferty and Provonsha (1978) for Arkansas. Its known North American distribution is quite disjunct, with specimens reported only from Manitoba (Flannagan and Flannagan 1982), Quebec (McDunnough 1931), Arkansas (Peters and Warren 1966, McCafferty and Provonsha 1978) and now Pennsylvania. This unusual distribution may be the result of misidentifications, since the adults of *L. umbratica*, *L. aphrodite* (McDunnough) and *L. hebe* (McDunnough) are quite similar (McCafferty and Provonsha 1978). However, McCafferty and Provonsha (1978) also pointed out that the western Arkansas mayfly fauna shares affinities with the Appalachian and midwestern mayfly faunas.

#### *Nixe perfida* (McDunnough)

VI-VII 1978, 3 ♂, 3 ♀

This species also has a disjunct distribution, known previously from Ontario (McDunnough 1926), Illinois (Burks 1953) and Arkansas (McCafferty and Provonsha 1978). McCafferty and Provonsha (1978) also reported collecting this species from sites in the midwest.

### Leptophlebiidae

#### *Paraleptophlebia moerens* (McDunnough)

V-IX 1979, 948 ♂, 1143 ♀

This species was the most abundant mayfly collected at the Sixmile Creek site. *Paraleptophlebia moerens* is typically eastern in its North American distribution, but Harper and Harper (1981) collected this species in the extreme northwest corner of the Northwest Territories.

#### *Paraleptophlebia ontario* (McDunnough)

VI-VIII 1978, 19 ♂, 26 ♀ (?)

Published descriptions of *P. ontario* females were not sufficient to distinguish them from females of *P. mollis* (Eaton) and *P. strigula* (McDunnough), which were also collected at the Sixmile Creek site.

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### A NEW INTERNATIONAL AWARD

The Council for the International Congresses of Entomology recently approved a new "Distinguished International Award in Morphology and Embryology," to be presented to an outstanding morphologist or embryologist at each future Congress of Entomology.

The award has been sponsored by the International Journal of Insect Morphology & Embryology (IJIME) and its publisher the Pergamon Press, Oxford, England and will consist of U.S. \$1,500 in cash and a gold medal.

Two awards will be presented at the next Congress in Vancouver, Canada: one retroactively for 1984 and the other for 1988. Full details of the selection procedures will be published in the December 1984 issue of the International Journal of Insect Morphology & Embryology.

For additional information regarding this award, one may write to A. P. Gupta, Editor-in-Chief, International Journal of Insect Morphology & Embryology, Department of Entomology & Economic Zoology, Rutgers University, New Brunswick, NJ 08903, U.S.A.