

## THE MAYFLIES (EPHEMEROPTERA) OF NORTH AMERICA ONLINE<sup>1</sup>

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**ABSTRACT:** A continually updated, easy-to-use accounting of the Ephemeroptera of Canada, Mexico, and the continental United States is accessible on the World Wide Web. Distributional and nomenclatural information accompanies the comprehensive listing of species and subspecies. Documentation may be accessed directly via the Mayfly Central home page URL.

The first comprehensive accounting of the mayflies of North America is found in Eaton's (1883-88) monograph of the world Ephemeroptera, wherein he treated 92 nominal species. Next, Traver (1935) provided a descriptive treatment of all species known from north of Mexico. She included 546 species. Of those, however, only 423 are still considered valid. Updated checklists of species north of Mexico were later provided by Edmunds and Allen (1957) and Edmunds (1962). Edmunds *et al.* (1976) tabulated all North American species within treatments of each of the genera recognized at that time. Most recently, McCafferty (1996) provided an updated treatment of species found in North America, accounting for the considerable nomenclatural and revisionary changes that have taken place since 1976, and at the same time providing a complete index to all names that previously have been used for North American species.

Published accountings of any large faunas suffer from the fact that they are usually out-of-date by the time they become available. The modern electronic media, however, offer the ideal solution to this dilemma. The main purpose of this note is to announce the placement of a complete and continually updated accounting of the mayflies of North America on the World Wide Web. This web version not only will be regularly updated as new information is published, but it will be universally accessible for ready reference because of the client/server technology it incorporates and the platform-independence inherent in the web, *i.e.*, any computer format with appropriate browser software can use it without downloading or decoding. Browser functions will also allow search and find operations within the document so that, for example, taxonomic names or any combinations thereof may be easily searched, and other data such as geographic regions or current applications of old names present in the literature may be accessed. For further discussion of the operation and advantages of the World Wide Web, see, *e.g.*, Hayes (1994) and VanDyk (1995).

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“The Mayflies of North America” may be located on the World Wide Web via the Mayfly Central home page URL, which is

**<http://www.entm.purdue.edu/entomology/mayfly/mayfly.html>**

Contents of the document are as follows: The current and last dates of coverage, the basis of the initial data, and the rationale for the treatment are given for general information purposes. User input is solicited, and users have the opportunity to communicate directly over the internet with Mayfly Central from within the “The Mayflies of North America” by using a simple select function. Any latest changes to the fauna, its nomenclature, or distribution are highlighted, and changes that are anticipated for the near future are also previewed. A section on how to read “The Mayflies of North America” includes a color-coded map of North America (Canada, Mexico, and continental United States) with the six broad geographic regions, adapted from McCafferty and Waltz (1990), that are cited for each species, and a complete explanation of the presentation of the information and how to interpret all other non-valid names that appear with the species. A separate listing of the higher classification of the Ephemeroptera of North America includes suborders, infraorders, superfamilies, families (and recent equivalents), and genera. These are presented in phylogenetic order, at least to the family level, as presented by McCafferty (1991) and modified by McCafferty and Wang (1994) and Wang and McCafferty (1995). Conveniently, the treatments of any family or any genus in the species list can be accessed by simply selecting the name in the higher classification list.

Finally, in “The Mayflies of North America,” the entirely alphabetical list of species is given, listed first by family, and then by genus. The initial edition of the list contains 21 families, 84 genera, and 673 valid species and subspecies. Indented under each valid name are all other names that have historically referred to that species or subspecies in the literature, along with an indication of why the name is subordinate, *i.e.*, if it is a synonym, homonym, misspelling, different combination, or invalid replacement. All names, both valid and subordinate, are accompanied by the author of the name (not reviser) and the official date of publication of the name.

Treatments of the Ephemeroptera of other major geographic regions of the world are being planned as additions to the database of information available from Mayfly Central. Such electronic cataloguing certainly marks a new era of taxonomic services. Not only will non-specialists involved in ecology, surveys, and biodiversity be able to track name changes and new faunistic data, but curators of collections will have access to current data invaluable for managing their collections.

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