

The Great Lakes Entomologist

Volume 34
Number 2 - Fall/Winter 2001 *Number 2 - Fall/
Winter 2001*

Article 2

October 2001

First Record Of *Axymyiidae* (Diptera: Nematocera: Axymyioidea) From Wisconsin

Daniel K. Young
University of Wisconsin

Anneke Lisberg
University of Wisconsin

Follow this and additional works at: <https://scholar.valpo.edu/tgle>



Part of the [Entomology Commons](#)

Recommended Citation

Young, Daniel K. and Lisberg, Anneke 2001. "First Record Of *Axymyiidae* (Diptera: Nematocera: Axymyioidea) From Wisconsin," *The Great Lakes Entomologist*, vol 34 (2)
Available at: <https://scholar.valpo.edu/tgle/vol34/iss2/2>

This Peer-Review Article is brought to you for free and open access by the Department of Biology at ValpoScholar. It has been accepted for inclusion in *The Great Lakes Entomologist* by an authorized administrator of ValpoScholar. For more information, please contact a ValpoScholar staff member at scholar@valpo.edu.

FIRST RECORD OF AXYMYIIDAE (DIPTERA: NEMATOCERA: AXYMYIOIDEA) FROM WISCONSINDaniel K. Young¹ and Anneke Lisberg¹**ABSTRACT**

The nematoceran fly family, Axymyiidae, is recorded from Wisconsin for the first time. A single adult female *Axymyia furcata* was collected in flight near a dead log along a forested path in south central Wisconsin on 24 April 2000.

Axymyiidae is a small and aberrant family of nematoceran flies, presently known from only five described and one or two undescribed species in the world. European and Asian species include *Mesaxymyia kerteszi* Duda (eastern Europe), *M. stackelbergi* Mamaev (eastern Siberia), *Protaxymyia melanoptera* Mamaev & Krivosheina (Palearctic), and *P. japonica* Ishida (Japan). The single described Nearctic species, *Axymyia furcata* McAtee, was known previously from eastern Canada (Ontario and Quebec) south through the Appalachian Mountains to North Carolina, with isolated records from Minnesota (Krogstad 1959) and Ohio (Foote 1991). According to Wood (1981), one, or possibly two, additional undescribed Nearctic species have been discovered from Alaska and Oregon.

On 24 April 2000, a single adult female of *A. furcata* was captured flying within three feet of a fallen and strongly fermenting cottonwood (*Populus deltoides* Bartram) log. The time was between 15:30 and 17:30; the temperature was approximately 65 °F and skies were clear. The collection site, Hemlock Draw, N43° 21' 34", W 89° 56' 54", is a largely mesic forested habitat under care of The Nature Conservancy. It is located in the Baraboo Hills, Sauk County, in south central Wisconsin. A nearby small stream provides ample riparian situations hypothesized to correspond to the larval habitat described by Krogstad (1959; see below). The single specimen of *A. furcata* upon which this new state record is based is housed in the Insect Research Collection of the Department of Entomology, University of Wisconsin-Madison.

Larvae of *A. furcata* have been found in moist, water-logged wood that is in continuous contact with standing water or wet, muddy soil (Krogstad 1959, summaries by Wood 1981 and Foote 1991). The abdomen bears pinnately branched anal papillae and a prominent, non-retractile respiratory siphon that is as long as, or longer than, the body. Adults are known to emerge in late April and early May.

The large compound eyes and short antennae and legs suggest a bibionid-like appearance, but axymyiids appear not to be closely related to Bibionidae. Hennig (1973) included this family in his Pachyneuridae, based on the branching of wing veins R_2 and R_3 , with the simultaneous unbranched nature of R_{4+5} . It is now hypothesized that this character is plesiomorphic, and as no other characters appear to be supportable as synapomorphies between Axymyiidae and Pachyneuridae, the relationship is in dispute. Mamaev and Krivosheina (1966) proposed a new superfamily, Axymyioidea, for the family; this scheme was supported by Wood and Borkent (1989).

¹Department of Entomology; University of Wisconsin; Madison, WI 53706

LITERATURE CITED

- Foote, B. A. 1991. Axymyiidae (Axymyioidea). In *Immature Insects*. Volume II. Edited by F. W. Stehr. Kendall/Hunt Publ. Co., Dubuque. pp. 738-739.
- Hennig, W. 1973. Ordnung Diptera (Zweiflügler) 31. In Helmcke, Starck, Wermuth, *Handbuch der Zoologie*, Berlin 4(2) (Lfg. 20):1-337.
- Krogstad, B. O. 1959. Some aspects of the ecology of *Axymyia furcata* McAtee (Diptera: Sylvicolidae). *Proceedings of the Minnesota Academy of Sciences* 27:175-177.
- Mamaev, B. M. and N. P. Krivosheina. 1966. New data on the taxonomy and biology of the family Axymyiidae (Diptera). [In Russian] *Entomologicheskoye Obozreniye* 45:168-180. [translated in *Entomological Review*, Washington 45:93-99]
- Wood, D. M. 1981. Axymyiidae. In *Manual of Nearctic Diptera*. Volume 1. [Monograph 27] Edited by J. F. McAlpine. Biosystematics Research Centre, Research Branch, Agriculture Canada, Hull, Quebec, Canada. pp. 209-212.
- Wood, D. M. and A. Borkent. 1989. Phylogeny and classification of the Nematocera. In *Manual of Nearctic Diptera*. Volume 3. [Monograph 32] Edited by J. F. McAlpine. Biosystematics Research Centre, Research Branch, Agriculture Canada, Hull, Quebec, Canada. pp. 1333-1370.