

Rediscovery of the Water Boatman *Sigara signata* (Hemiptera: Corixidae) in Ohio, with Brief Notes on Habitat and Distribution

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Introduction

Water boatmen (Hemiptera: Corixidae) are common and widespread aquatic insects found throughout North America. Of the 17 genera known from the United States and Canada (Polhemus *et al.*, 1988), the transcontinental genus *Sigara* Fabricius, 1775, consisting mainly of small insects (range 2 to 9 mm), is the most diverse with 50 species. In Ohio only one *Sigara* species, *Sigara alternata* (Say, 1825), exceeds 6 mm in length. Very small *Sigara* specimens can be easily overlooked in the field by general collectors and are also taxonomically challenging.

The Corixidae of Ohio, as well as several other aquatic insect groups, are relatively poorly known. However, several ongoing projects are addressing this deficiency and have thus far resulted in many interesting discoveries. In 1998 alone, 80 aquatic insect species were reported as new records for Ohio [45 aquatic Coleoptera by Chapman (1998); five Corixidae by Chordas and Armitage (1998); 30 Ephemeroptera by Randolph and McCafferty (1998)]. Although we do not report a new state record, this note addresses the interesting find of a small *Sigara* species [*Sigara signata* (Fieber, 1851)] that apparently has not been collected in Ohio for over 80 years.

Methods

We collected *Sigara signata* specimens in dip-net samples and in illuminated underwater bottle traps. Identification was made using the key to North American *Sigara* by Hungerford (1948). Specimens were preserved in 75% ethanol. All voucher specimens have been retained by the first author and deposited in his personal collection (SWAC Collection) at The Ohio State University. The prominent Ohio museum collections of the Cincinnati Museum of Natural History, Cleveland Museum of Natural History, Boonshoft (Dayton) Museum of Discovery, the Ohio Biological Survey, The Ohio State University, and Youngstown State University were searched for additional *Sigara signata* records.

Results and Discussion

We collected *Sigara signata* in July of 1996 and October of 1997 from a marsh area located in Berlin Lake Wildlife Area, Portage County (41° 00.9' N : 81° 05.3' W). This habitat covered approximately 1.5 hectares, was less than 2 meters deep with clear water, and contained a mixture of cattails, grasses, sedges, and reeds along with edge-line filamentous algae and a scant covering of duckweed. In October of 1997 we collected *Sigara signata* from a pond on the Lake County YMCA property (41° 44.16' N : 81° 07.9' W). This habitat was less than 0.1 hectare in size, less than 1 meter deep with clear water, and contained filamentous algae along with scant cattail and grass stands. Initially we thought that this species was a new state record for Ohio, because in their most recent synopsis, Polhemus *et al.* (1988) did not list *Sigara signata* for Ohio. However, further research found that Hungerford (1948) did list it from Summit County, Ohio (from an unknown number of specimens, possibly only one) with a collection date of August, 1916. Its omission from the Ohio fauna by Polhemus *et al.* (1988) was either a typographical error or simply an oversight by the authors (personal communication, John T. Polhemus, Colorado State Museum, Englewood). No *Sigara signata* specimens were found in any of the museum collections examined. It was also absent from several hundred black light samples, obtained over five years, in the Ohio Biological Survey Collection. However, this is not too surprising as we

know of no report of it being taken in black light samples. Thus, our specimens appear to be the first *Sigara signata* specimens collected in Ohio since 1916.

The dearth of corixid specimens in nearly all of Ohio's insect collections may be due to the lack of collecting effort. However, we have made well over 300 dip-net and bottle-trap collections from 1995 through 1998, mainly targeting aquatic Hemiptera and Coleoptera, from many aquatic habitats throughout Ohio. Of these, only three collections contained *Sigara signata* specimens (with no more than four specimens of this species from any collection). Excluding the single literature report, which does not provide specific data (*e.g.* number of specimens, sex, habitat information, *etc.*), this species is known from only eight specimens taken at two sites located in two northeastern Ohio counties (Lake and Portage) (Figure 1). Thus, in Ohio, *Sigara signata* has been taken only during July, August, and October, and seems to prefer well vegetated, permanent, shallow ponds or marsh areas.

Although its range in Ohio is apparently restricted to the northeastern corner, *Sigara signata* is widespread in North America north of Mexico, occurring mainly east of the Mississippi and Assiniboine rivers (Figure 2). Bobb (1974) reported this species as a new state record for Virginia and found adults every month of the year except January, noting that it occurred in largest abundance in ponds. Wilson (1958) listed it as possibly occurring in Mississippi. It has been taken in pool areas of streams (Bobb, 1974; Hilsenhoff, 1984) which are generally believed to be the overwintering sites for many corixids in the northern portion of North America.

Of the 50 species known for the United States and Canada, there are currently only eight *Sigara* species reported from Ohio. Further, two of these eight were recently reported by Chordas and Armitage (1998). Comparatively, there are 23 *Sigara* species known from both Michigan (Stephen W. Chordas III, unpublished data) and Wisconsin (Hilsenhoff, 1984), and 14 from Virginia (Bobb, 1974). Many more *Sigara* species could yet be reported for Ohio.

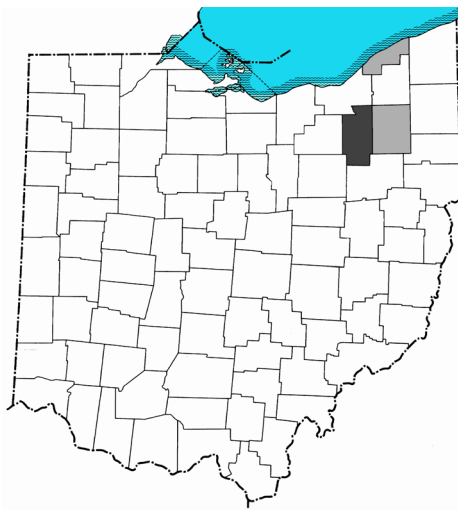


Figure 1. Distribution of *Sigara signata* in Ohio. Light-shaded fill represents new county records. Dark-shaded fill represents literature record (see text).



Figure 2. Distribution of *Sigara signata* in the United States and Canada.

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