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## Revisions and Additions to Our List of Iowa Corixidae

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## Revisions and Additions to Our List of Iowa Corixidae

By D. D. MILLSAUGH

A preliminary survey and ecological notes of Iowa Corixidae was submitted to the Iowa Academy in 1940 in which paper some eight species were included. Since that time a monograph of the Corixidae of the Western Hemisphere by Dr. H. B. Hungerford, which includes a monograph of the *Trichocorixa* by Dr. R. I. Sailer, has been published. This work makes the present paper seem warranted and necessary since their study makes many generic changes as well as adds much to the known species.

While the above named authors were largely responsible for the determinations of our Iowa species some are not included in their monograph. They have said that there are some 209 species known in the Western Hemisphere and that of these 137 species are reported from North America and Mexico. While doubtless, Iowa has not been thoroughly investigated, the Iowa Insect Survey Collection has some 7 genera and 20 species. Two other species known to occur in Iowa are added to this list, and doubtless other species should be found in Iowa.

Corixidae are largely herbivorous, feeding upon organic ooze in which are a great diversity of plant and animal life. Algae is utilized by many species. In most, but not all, the palae are modified into a flattened dipper like appendage which is used to scoop up this organic matter. These water boatmen in turn make excellent forage for many animals which feed upon this bottom ooze. Fishes seem to like them, however one might guess that they were distasteful for some since they possess scent glands and give off a noticeable odor.

The habitat varies with the species concerned, but many prefer fresh water which may be either slow moving or in pools. Some breed only in permanent water but others breed freely in temporary rain pools. They can be taken in Light traps at various times of the year and some have been taken up to 50 feet above the ground level. In some the capacity of flight is reduced and no flight is possible.

The power of stridulation was recorded over a hundred years ago, however it was not until 1935 that Heinz von Mitis explained the means in which sound was produced.

The air store is situated under the wings, however some air is retained on the surface of the body. The air stores in Corixidae

are regarded by some as containing only expired air which is of no value in normal respiration. Some authors maintain however that such a store of oxygen may be breathed in again through the spiracles, and to this extent they serve as a reserve supply. Others state that a third function which consists in separating by diffusion the oxygen dissolved in the water. The first three of the five nymphal stages do not come to the water's surface to get air, but take it directly through the skin from the water. Water boatmen will float to the surface if they are not able to catch hold of some solid object with their middle legs.

The Corixidae are separated from other aquatic Hemiptera by their modified mouthparts and forelegs and the nymphs are provided with a scent gland on the abdominal dorsum.

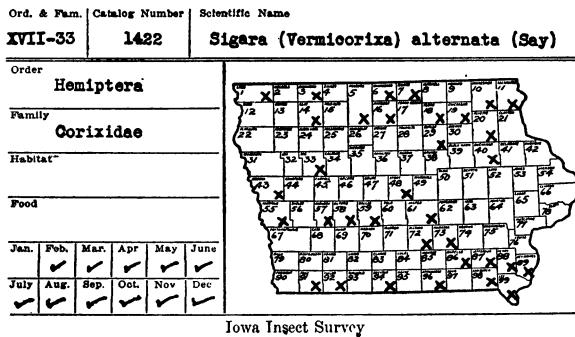


Figure 1. Iowa Insect Survey card to show seasonal and geographic record of the species.

The following list of Corixidae were determined for the most part by Doctors Hungerford and Sailer to whom the author expresses special gratitude.

*Callicorixa audeni* Hungerford

Not previously recorded from Iowa, but one specimen is reported from Hancock County taken in July. This species is recorded previously as far south as North Dakota, Minnesota, Michigan, Colorado, Wyoming and Utah and is said to range through Canada and into Alaska.

*Ramphocorixa acuminata* (Uhler)

Not previously recorded from Iowa, but four specimens were taken from Henry County in July. Previous records show it to have been collected in the following states: Washington, D. C., Ohio, Illinois, Minnesota, South Dakota, Missouri, Kansas, Colorado, New Mexico, Oklahoma, Mississippi, Alabama, Georgia, Texas as well as in Mexico.

*Sigara (Arctosigara) decoratella* (Hungerford)

Not reported by the 1940 publication but recorded from Iowa Wesleyan

College by Hungerford's monograph. Specimens in the Iowa Insect Survey are from Lyon County, Dickinson, Winnebago and Hancock counties and are recorded for June and July. They have also been reported from Maine, Massachusetts, Connecticut, Rhode Island, New York, New Jersey, Pennsylvania, Michigan, Wisconsin, Minnesota, North and South Dakota and New Mexico as well as for Canada and Alaska.

*Sigara (Vermicorixa) alternata* (Say)

In the previous report it was reported as *Arctocorixa alternata* (Say). It has now been collected in 34 Iowa counties and is shown to be spread throughout the state. It has been collected in all months of the year except January. It is spread out through most of the United States and Canada.

*Sigara (Vermicorixa) modesta* (Abbott)

In the previous report it was reported as *Arctocorixa modesta* Abbott. It is now reported from Osceola, Dickinson, Henry and Page counties for the months of March, April, May and July. Hungerford reports it from a number of other states.

*Sigara (Vermicorixa) grossolineata* Hungerford

Hungerford reports it from Story and Henry counties in Iowa as well as in Canada and numerous localities in the United States. Specimens in the Iowa Insect Survey have been collected in 14 counties throughout the state and these show them present in the months of February, March, April, May, June, July, September and October.

*Sigara (Vermicorixa) hubbelli* (Hungerford)

Not in the previous report but was recorded by Hungerford for Iowa and the specimen is in the Iowa Insect Survey Collection. Those recorded in the Iowa Insect Survey are all taken in the month of October and from counties Henry, Des Moines and Lee.

*Cenocorixa dakotensis* (Hungerford)

In the previous report it was recorded as *Arctocorixa dakotensis* Hungerford. It has been collected in Lyon and Dickinson counties in the North-western part of the state during the months of June and July. Hungerford reports it from Minnesota, Illinois, North Dakota and South Dakota as well as Canada.

*Cenocorixa utahensis* (Hungerford)

This species is recorded for Dickinson County in Iowa by Hungerford, however no specimens are in our Iowa Insect Survey Collection. He also records it from Canada, Oregon, California, Idaho, Nevada, Utah, Arizona, New Mexico, Colorado, Texas, Kansas, North Dakota and South Dakota.

*Corisella edulis* (Champion)

This species was previously recorded from Story County, Iowa by Hungerford who also recorded the species present in Mexico, Texas, Arizona, Nevada, Oregon, Utah, Nebraska, Kansas, Oklahoma, Mississippi, Minnesota, District of Columbia, Tennessee and Georgia. One specimen from Delaware County, Iowa, is in the Iowa Insect Collection which was caught in June.

*Hesperocorixa atopodonta* (Hungerford)

This species is recorded for Hancock County in July. Previous records

include Massachusetts, Maine, New York, Minnesota, Michigan, Kansas, Colorado, New Hampshire, Connecticut, Rhode Island, New Jersey, Ohio, Wisconsin, North Dakota, Montana, Washington and Canada.

*Hesperocorixa vulgaris* (Hungerford)

In the previous paper it was recorded as *Arctocorixa vulgaris* Hungerford for the months of August, October and November and from Dickinson, Henry, and Decatur counties. Hungerford lists Henry and Woodbury counties for November, April, and March. The counties may now be extended to include Dickinson, Kossuth, Winneshiek, Allamakee, Hancock, Buchanan, Story, Johnson, Woodbury, and Henry. These were recorded for the months of February, March, April, May, June, July, August, October, November and December. This species has been collected widely in the United States and Canada.

*Hesperocorixa nitida* (Fieber)

Has been recorded for a number of states including a report of two females from Iowa in Uhler's Collection. The Iowa Survey Collection does not have any specimens of this species.

*Hesperocorixa obliqua* (Hungerford)

In the previous report it was recorded as *Arctocorixa obliqua* Hungerford and recorded in county (87) Jefferson for the months of May and June. The species is well represented throughout the United States and ranges into Canada. The Iowa Insect Survey now has specimens from Dickinson, Jefferson, Henry, and Des Moines counties for the months of March, April, May, June, July, and October.

*Hesperocorixa interrupta* (Say)

It too was listed in the past report as *Arctocorixa interrupta* (Say). Our records indicate that specimens are in the collection for Dickinson and Henry counties in Iowa for the months of February, March, July, October, and November. They too are said to range over much of the United States and into Canada.

*Palmacorixa gillettei* Abbott

This species is rather limited in range having been recorded from Butler County in Iowa on July 6, 1940. Recorded also from Colorado, Michigan, Minnesota and Quebec province, Canada. The Iowa collection shows specimens from Dickinson, Floyd, Butler and Dallas counties taken in June, July and August.

*Palmacorixa buenoi* Abbott

The previous paper recorded this species from Dickinson County, Iowa, in June and July and Hungerford listed it from Washington County, Iowa, for June. Those present in the collection are from Dickinson County, as well as Floyd and Mahaska counties and the months of June, July, and August are noted. Known to occur in New York, New Jersey, Massachusetts, Pennsylvania, Virginia, West Virginia, South Carolina, Georgia, Florida, Alabama, Louisiana, Texas, Kansas, South Dakota, Minnesota, Indiana, and Michigan.

*Trichocorixa borealis* Sailer

Reported by Sailer for Pickerel Lake, July 12, 1940. He has recorded the

species from Minnesota, North Dakota, South Dakota, Colorado, and Canada. None in Survey Collection.

*Trichocorixa calva* (Say)

This was *Trichocorixa burmeisteri* (Fiebr) in the 1940 paper, however this change is made by Sailer in his present Monograph, in which he has given Story, Henry, Des Moines, Bremer and Butler counties and these are recorded for March and July. Specimens in the Iowa Insect Collection are from Butler, Bremer, Jefferson and Henry counties and represent May, June, July and October. It is rather widely distributed throughout the United States.

*Trichocorixa kanza* Sailer

The Iowa Insect Survey Collection has only Henry and Palo Alto counties represented for June and July, however Sailer records specimens from Woodbury, Linn, Wapello, Des Moines, Lee and Henry counties. These represent June, July, May, March. It has been recorded for Kansas, Missouri, Arkansas, Oklahoma, Texas, Louisiana, Mississippi, Alabama, Georgia, Tennessee, Florida, District of Columbia, Pennsylvania, Illinois, Wisconsin and Nebraska.

*Trichocorixa naias* (Kirkaldy)

Specimens in the Iowa Insect Collection are from Lyon, Dickinson, Worth, Clay, and Henry counties. These are found in June and July. Sailer recorded Story, Lyon, Dickinson, Worth, Clay and Des Moines counties and these represent the months of July, June, and September. This species is found in Texas, Louisiana, Mississippi, Kansas, South Dakota, Colorado, Minnesota, Wisconsin, Illinois, Michigan, Indiana, New York, Massachusetts, Pennsylvania, Virginia, Georgia, and Florida.

*Trichocorixa verticalis* (Fieber)

One specimen is recorded from Hancock County for the month of June. In Sailer's Monograph this species is further broken down into several subspecies.

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