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An Annotated List of the Lygaeidae of Iowa and Illinois (Hemiptera: Heteroptera)

James A. Slater
Iowa State College

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In this paper an attempt has been made to present an adequate list of Lygaeidae found in Iowa and Illinois, and to indicate what is known of the intrastate distributions of the various species. This paper is limited to geographic considerations and, in this sense, assumes the character of a "local list" as no biological or ecological considerations are discussed. It is felt that our knowledge of the Nearctic Lygaeidae has reached a degree of maturity where knowledge of state and lesser faunal areas is essential to encourage the badly needed bionomic work that should develop with a relatively stable and mature taxonomy. The author hopes in the future to supplement this distributional study by contributions dealing with bionomic aspects of the various species of the family. It is also hoped that this list will encourage local collectors to fill the gaps still present in our knowledge and also be of aid to ecologists, students of animal distribution and those contemplating faunal listings of other areas.

For adequate keys to most of the species discussed in this paper the student is referred to those of Barber (1917, 1918), Blatchley (1926), Froescher (1944), and Torre-Bueno (1946).

Previous work upon the Lygaeidae of the two states has been spotty. Just prior to the turn of the century Herbert Osborn published a series of faunistic papers upon the Iowa Hemiptera in which he reported thirty species of Lygaeidae. From the time of Osborn little appeared until Hendrickson (1930) published the results of a survey of prairie insects of the state and included in this report are a considerable number of important lygaeid records. In the 1930's Andre and coworkers published several bionomic papers on certain Lygaeidae. The most comprehensive recent study is an unpublished master's thesis presented at Iowa State College in 1942 by Mr. C. A. Wilson. His work reports 44 species of Lygaeidae distributed in 33 genera. Since 1942 the Iowa Insect Survey collection has been checked over and a considerable amount of collecting has been done so that at present the Iowa list stands at 57 species in 37 genera.

In Illinois P. R. Uhler reported species from the state in several of his papers. Insofar as the writer ~~is aware~~ Uhler recorded 14 species from Illinois. Forbes (1884, 1900, 1905) in his annual reports mentioned a number of species of greater or lesser economic

importance. Hart (1907) and Vestal (1913) in their ecological studies of the Illinois sand areas listed several species of Lygaeidae; and Robertson (1929) in his insect-flower studies recorded a few species from the Carlinville, Illinois, area. The present writer submitted an unpublished master's thesis in 1947 at the University of Illinois, primarily on the nymphal stages of this family, and, in that paper, reported on the distributional data for the state. It is interesting that Illinois has the same number of genera and species as Iowa, in that 57 species in 37 genera are known, although 14 species are not common to the two areas. The survey of the literature has not been exhaustive, but it is believed that the great majority of the previous records have been obtained and are noted under the various species.

For the two states 64 species representing 38 genera are known, an increase of 18 species and 9 genera for Iowa and 29 species and 15 genera for Illinois. In addition a great amount of intrastate distributional data is presented.

The geographic position of Iowa and Illinois is of much interest in that portions of three zoogeographic areas[1] are present in the area. The greater portion of each state lies within the Carolinian fauna. The northern counties of both states are within the southern extremity of the Alleghanian fauna, while the Austroriparian fauna reaches northward up the Mississippi valley into southern Illinois. These faunal areas are represented by a number of lygaeid species that are largely restricted to these faunas in their distribution within the states. As might be expected, the lygaeid fauna is essentially similar to that extending over the northeastern United States; however, because the area touches the northern, western and southern edges of the carolinian, a number of forms more representative of other faunas are encountered and are of especial interest.

The Austroriparian fauna that extends northward up the Mississippi valley is represented by *Cymus virescens*, *Geocoris punctipes*, *Ligyrocoris slossoni*, *Ligyrocoris abdominalis*, *Pachybrachius bilobata* and *Ozophora picturata*, species that are common in the southern United States, but represented by only a few scattered records in the southern counties of Illinois.

The Lygaeidae have a well-defined fauna extending across Canada and the northern United States; a number of these species enter the northern counties of the two states; representative of this fauna are *Cymus luridus*, *Cymus discors*, *Cymus robustus*, *Ligyocoris sylvestris*,

[1]Geographic terms used follow those of Muesebeck, C. F. W. et al. 1951. Hymenoptera of America North of Mexico, Synoptic Catalog, U.S.D.A. Agric. Monograph No. 2. (Front piece map).

Pseudocnemodus canadensis, Sphaerobius insignis, Stygnocoris rusticus and *Scolopostethus thomsoni.*

There are also a number of typically western species that reach the area, most of the records for these species are from Iowa and, of course, indicate the proximity of the Great Plains to this state. These western species tend to be scarce in the state and the records are very spotty. Typical of these western species are *Lygaeus lateralis, Ischnodemus hesperius, Ischnodemus macer, Ligyrocoris coloradensis* and *Uhleriola floralis. Blissus iowensis* may also prove to belong to this western faunal element.

From the viewpoint of major faunal regions, Iowa and Illinois show the majority of genera to be distinctly Nearctic. Of the 37 genera present in the two states 46% can be considered as predominately, or entirely, Nearctic forms. The Palearctic (perhaps more correctly to be considered as Holarctic) element is rather strongly represented, eight genera, or 22%, are predominately Palearctic forms. The genera considered as predominately Palearctic are *Kleidocerys, Peritrechus, Sphragisticus, Emblethis, Drymus, Eremocoris, Scolopostethus* and *Stygnocoris.* It is noteworthy that all of these genera with the exception of *Kleidocerys,* belong to the rhyparochromine tribes Beosini and Lethaeini. In the Lygaeidae of great faunistic importance is the relative proportion of members of the tribes Myodochini and Rhyparochromini. The former tribe predominates in the Nearctic region and is scantily represented in the Palearctic. The latter is represented by a great number of Palearctic genera, but is poorly represented in the Nearctic region. Of the 23 genera and 34 species belonging to the subfamily Rhyparochrominae in Iowa and Illinois, 11 genera (48%) and 19 species (56%) belong to the tribe Myodochini, whereas only 4 genera (17%) and 5 species (15%) pertain to the tribe Rhyparochromini. Five species found in Iowa and Illinois, *Nysius ericae, Kleidocerys resedae, Ligyrocoris sylvestris, Stygnocoris rusticus* and *Sphragisticus nebulosus* are also found in the Palearctic region.

The Neotropical fauna is represented by such genera as *Oncopeltus, Oedancala, Myodocha, Heraeus* and *Ozophora.* It is worthy of note that although each of these genera contains many species in the southern Nearctic and in the Neotropical regions each is represented by a single species in this area. This probably indicates a northward radiation of species belonging to genera having their foci in tropical and subtropical areas.

Sources of Material

For Iowa the bulk of the records have been obtained from the collections of the Iowa Insect Survey at Mt. Pleasant, Iowa, and from the collections of the Department of Zoology and Entomology at Iowa State College. The Iowa Insect survey has been particularly rich in yielding a large number of important distributional records. The personal collection of Professor H. M. Harris of Iowa State College has also yielded a number of important records, many of them pertaining to the less common members of the family.

For Illinois the great majority of the records have been obtained from two sources. First, the extensive collections of the Illinois Natural History Survey at Urbana, Illinois, and secondly, from the personal collection of Mr. William Gerhard, who for very many years has collected Hemiptera assiduously, principally from the northeastern corner of the state. The private collection of the author has also been used to augment the records from the sources indicated above.

The sources from which records have been obtained are indicated by letter abbreviations and follow the county listing of each species. William Gerhard collection, WG; Illinois Natural History Survey collection, INHS; H. M. Harris collection, HMH; Iowa Insect Survey collection, IIS; Iowa State College collection, ISC; private collection of the author, JAS. In several instances the writer has not been able to examine specimens upon which some of the Wilson thesis records were based, in such cases the county record is followed by CW, to indicate the county is listed by Wilson, but that the present author has not seen material from the county.

List of the Species

Subfamily Lygaeinae Stal 1862.

Tribe Lygaeini Stal 1872.

Oncopeltus fasciatus (Dallas), 1852.

This is the largest and showiest midwestern lygaeid, and is generally distributed throughout much of the United States and southward into Argentina. It has previously been reported from Illinois by Vestal (1913) and Robertson (1929), and from Iowa by Osborn (1892) and Andre (1934).

County records: Iowa: Boone (ISC); Bremer, Des Moines, Dickinson, Emmet, Fremont, Hancock, Henry (IIS); Johnson (Andre, 1934); Lee (IIS, ISC); Linn, Louisa (IIS); Mahaska (Andre, 1934); Muscatine (IIS, ISC); Osceola, Page (IIS); Polk (IIS, ISC); Sioux (IIS); Story (HMH, ISC, JAS, Andre, 1934); Van Buren (IIS); Wapello (Andre, 1934); Winnebago (ISC).

Illinois: Boone (JAS); Champaign (INHS, ISC); Coles (INHS); Cook (INHS, WG); Gallatin, Grundy (INHS); Jackson (INHS, WG); Marion

(INHS); Macoupin (Robertson, 1929); Mason (JAS); McHenry, Peoria, Piatt, Tazewell, Wabash (INHS); Warren (JAS); Washington (INHS).

Lygaeus turcicus Fabricius, 1803.

This species is northern in distribution in the United States. Records are lacking from the southern half of Illinois and the southwestern counties of Iowa. However, the distribution is probably over the entire area as Froeschner (1944) states it probably occurs throughout Missouri. The older records are somewhat unreliable as the species was frequently confused with *Lygaeus kalmii* Stal. Osborn (1892) reports the species from Iowa, but a specimen of *Lygaeus kalmii* in the ISC collection is entered in the accession catalogue as this species and the record may belong to the following species. Robertson's (1929) records of this species from Illinois are probably referable to the following species. *L. turcicus* has also been reported from Illinois by Stal (1874), Uhler (1876), Hart (1907) and Van Duzee (1917).

County records: IOWAS Boone, (HMH, ISC, JAS); Cherokee, Clinton, Crawford, Dickinson, Emmet, Henry, Howard, Jefferson, Jones (IIS); Muscatine (ISC); Story (HMH, ISC, JAS).

ILLINOIS: Champaign (INHS); Cook (INHS, WG); Ford, Jersey (INHS); Mason (INHS, Hart 1907); McHenry, Vermilion (INHS).

Lygaeus kalmii Stal, 1874.

This is one of the commonest lygaeids throughout both states and records are available for all but a few scattered counties.

Previous records for Illinois are by Distant (1882), Hart (1907), Vestal (1913), Van Duzee (1917), Parshley (1923), and Balduf (1943). The Illinois records of Robertson (1929) for *Lygaeus turcicus* should be referred here. Previous Iowa records are by Parshley (1923), Hendrickson (1930), and Simanton and Andre (1936). The Osborn (1892) Iowa record of *Lygaeus reclivatus* Say is apparently based on a specimen in the ISC collection bearing the accession number 298 which is a typical specimen of *kalmii* and the record should be referred here.

Parshley (1919) recognized two subspecies of *Lygaeus kalmii* from the United States. The nominal form he limited to the western states and characterized it by the presence of a large white membranal spot, a broad white membranal margin and a narrowing of the red apical margin of the corium. To the eastern subspecies, characterized by either no membranal spot, or at most a very small one, a narrow white membranal margin and a much broader apical corial margin, Parshley gave the name *angustomarginatus.*

Some controversy has since existed in the literature regarding the status of these subspecies. Blatchley (1926) states that both forms occur throughout Indiana. Froeschner (1944) notes that the variations were so great that he was unable to separate the Missouri material. Simanton and Andre (1936) who studied the biology of the species in Iowa state that of 1,000 specimens examined in the field from Iowa 49% were referable to the western form, 49% to the eastern and 2% were intermediates. It is important to note that all three of the above mentioned states lie east of the area of intergradation as defined by Parshley (1923) and thus should represent predominant populations of the eastern *angustomarginatus.*

During the present study 202 specimens of *kalmii* from Iowa have been examined. I find myself in essential disagreement with Simanton and Andre as to the composition of the Iowa fauna. Of these 202 individuals 96% (193

specimens) are referable to the eastern *angustomarginatus*, while 3% (6 specimens) represent typical *kalmii kalmii*, 3 individuals are considered intermediate. It is unfortunate that Simanton and Andre did not preserve a sample of their specimens, but on the basis of available material I feel that Parshley's conclusions are correct and that the Iowa form of *kalmii* is very predominately *angustomarginatus*. I suspect that authors having difficulty with separation of the two subspecies have utilized the presence or absence of the membranal spot as decisive rather than the extent of this spot. It is true that the differences are somewhat relative, but after examining western specimens from Nebraska, South Dakota, Wyoming, Colorado, Idaho, Montana, and Arizona and eastern material from Illinois, New York, Ontario, Tennessee and North Carolina I have had no difficulty in following the points of distinction elucidated by Dr. Parshley. Of some interest are a copulating pair from Navasota, Texas which is near the line of intergradation as indicated by Parshley. This pair taken in copulation consists of a male *kalmii* and a female *angustomarginatus*.

Of the three basic characters used by Parshley I have found the white membranal spot the most reliable and the red apical margin of the corium the least so.

Lygaeus bicrucis Say, 1825

Occurs sparingly throughout both states. The general distribution is more southern than that of the two preceding members of the genus.

The species has previously been recorded from Illinois by Hart (1907), Vestal (1913), Blatchley (1926) and Robertson (1929, as *Melanocoryphus bicrucis*) and from Iowa by Osborn (1890, 1892, 1894, as *Melanocoryphus bicrucis*) and Hendrickson (1930).

County records: IOWA: Black Hawk (HMH, ISC); Buchanan (JAS); Calhoun (ISC); Chickasaw (IIS); Clayton (ISC); Dickinson, Hancock, Harrison, Henry, Howard (IIS); Iowa (ISC); Jefferson (IIS); Mitchell (ISC); Monona, Page (IIS); Polk (JAS); Sioux (IIS); Story (ISC, JAS, HMH, Osborn, 1892, 1894); Wapello, Washington (IIS); Winnebago (ISC).

ILLINOIS: Champaign (INHS); Cook (WG); Franklin, Jackson, Lake (INHS); Macoupin (Hart, 1907, Robertson, 1929); Mason (INHS, JAS, Hart, 1907, Vestal, 1913); McHenry, Morgan, Piatt, Pulaski, Washington (INHS).

Lygaeus lateralis Dallas, 1852.

This is a western species that probably reaches the eastern extremity of its range in Iowa. It has been taken only in Story County, Iowa (ISC, JAS).

TRIBE ORSILLINI STAL 1872.

Ortholomus scolopax (Say), 1832.

This is a common species throughout both Iowa and Illinois and is very widely distributed throughout most of the United States. It has previously been reported from Illinois by Uhler (1876, as *Orsillus scolopax* Say), Van Duzee (1917) and as *Ortholomus longiceps* by Robertson (1929). In Iowa it has been reported by Hendrickson (1930) and as *Orsillacis producta* ? by Osborn (1892).

Records are available for 36 Iowa counties and 17 counties from Illinois.

Nysius californicus Stal, 1859.

This species is of western and southern distribution in the United States. From the available records it appears to be more common in Iowa than in Illinois. A specimen in the author's collection from Urbana, Illinois was determined as variety *alabamensis* Baker by Mr. Barber.

The species was previously reported from Iowa by Osborn (1899) and Hendrickson (1930).

County records: IOWA: Adams (IIS); Audubon (HMH, ISC, IIS); Benton (IIS); Black Hawk, Buena Vista, Carroll (ISC); Cass (IIS); Cherokee (CW); Crawford, Delaware (ISC); Dickinson, Franklin, Grundy, Howard, Jackson, Jasper (IIS); Keokuk (IIS, ISC); Lee (IIS); Lucas (ISC); Mahaska, Plymouth, Pottawattamie, Sac (IIS); Story (ISC, JAS); Union (IIS).

ILLINOIS: Champaign (JAS); Lake, Washington (INHS).

Nysius ericae (Schilling), 1829.

This insect, known in economic entomological literature as the "false chinch bug," is an abundant insect in both states. Records are available from a very large number of counties throughout both states.

This species has previously been reported from Iowa by Hendrickson (1928, 1930), Evans (1936) and Drake (1933, 1940). In the older literature this species and the following were considered synonymous and many of the *angustatus* Uhler records of Osborn, Forbes and Hart undoubtedly belong here. Because of the existence of the true *angustatus* in this area it is impossible without seeing specimens to know which species is referred to by these earlier authors.

Nysius angustatus Uhler, 1872.

This species is apparently of northern distribution in the United States and is rare in our area. Authentic material has been examined only from Hamilton County, Iowa (ISC) and Ogle County, Illinois (INHS).

The species was reported from Iowa by Osborn & Gossard (1891), and Osborn (1892) and from Illinois by Forbes (1884, 1900, 1905) and Hart (1907). As noted above many, if not all, of these records probably refer to *ericae*. As a matter of fact most of the records for this species prior to Barber's (1947) generic revision must be considered as questionable.

Nysius raphanus Howard, 1872.

This is a species of southern distribution in the United States. Prior to 1947 it has usually been considered as a synonym of *ericae*. Specimens have been examined only from Hamilton, Marshall (ISC), Polk (JAS), and Story (ISC) counties in Iowa. It certainly should occur throughout southern Illinois.

Belonochilus numenius (Say), 1832.

This is a widely distributed species in the United States. In Iowa and Illinois it appears to be a widespread although scarce species.

The species has been reported from Illinois by Uhler (1871, 1876, 1878) and Van Duzee (1917) and from Iowa by Osborn and Ball (1897).

County records: IOWA: Henry (IIS); Story (ISC, JAS, Osborn & Ball, 1897).

ILLINOIS: Carroll, Champaign (INHS); Cook, Du Page (WG); McHenry Piatt, Union (INHS).

Subfamily Cyminae Stal 1862.

tribe ischnorhynchini stal 1872.

Kleidocerys resedae (Panzer), 1797.

This is a very wide ranging species, occuring in the Palearctic and Neotropical regions as well as throughout much of the Nearctic region. This genus is in the process of revision by Mr. H. G. Barber and the range may subsequently be more clearly defined.

The species has been reported from Illinois by Van Duzee (1917), and by Uhler (1876) as *Ischnorhynchus didymus* and from Iowa under the same name by Osborn (1892).

County records: Iowa: Bremer (IIS); Clayton (ISC, JAS); Clinton (ISC); Delaware (JAS); Fayette (ISC); Hancock (IIS); Hardin, Harrison (ISC); Henry (IIS); Johnson (ISC); Lee, Linn, Louisa (IIS); Scott (JAS); Story (HMH, ISC, JAS); Tama (HMH); Wapello (ISC); Washington (ISC, IIS).

Illinois: Carroll (INHS); Champaign (INHS, JAS); Cook (INHS, WG); Kankakee (WG); Lake, Henry (INHS); Piatt (INHS, JAS); Washington (INHS).

tribe cymini stal 1872.

Cymus luridus Stal, 1874.

This is a species of northern distribution in the United States. In Illinois it has been taken only in the northern tier of counties, and in Iowa south to the center of the state.

This species was reported from Iowa by Hendrickson (1930).

County records: Iowa: Boone (ISC, JAS); Dickinson (ISC); Polk (JAS); Story (ISC, JAS); Winnebago (ISC, Hendrickson, 1930).

Illinois: Boone (JAS); Jo Daviess, Lake (INHS).

Cymus robustus Barber, 1924.

This scarce species was described from New York and Michigan and recorded from Indiana by Blatchley (1926). It is known from Iowa and Illinois by only two records, both records confined to a county located at the northern border of each state.

County records: Iowa: Dickinson (IIS).

Illinois: Boone (JAS).

Cymus virescens (Fabricius), 1794.

This is a species of distinctly southern distribution. Its inclusion in the present list is based upon a specimen from Union county, Illinois (INHS), a county in the extreme southern portion of the state.

Cymus discors Horvath, 1908.

This is a species of northern distribution in the United States. It appears to be a scarce species in both states.

The Osborn (1892) record of *Cymodema tabida* (Spin.) (later [1893] corrected to *Cymus claviculus*) from Iowa belongs here.

County records: Iowa: Fayette, Johnson (JAS).

Illinois: Boone (JAS); Carroll, Jo Daviess, Ogle (INHS); Vermilion (Myers, 1940).

Cymus angustatus Stal, 1874.

This is much the commonest member of the genus in the area under consideration and occurs throughout both states. Records are available for 36 Iowa counties and 16 from Illinois indicating state-wide distributions.

The species was previously reported from Iowa by Osborn (1892) and Hendrickson (1930).

SUBFAMILY BLISSINAE STAL 1862.

Ischnodemus falicus (Say), 1832.

This is a wide ranging species, occurring over much of the United States. The distribution covers both Iowa and Illinois, although only 6 county records are available for the latter. From Iowa records are available for 67 counties.

The species has been reported from Iowa by Osborn (1892), Hendrickson (1930) and Slater (1951).

Ischnodemus macer Van Duzee, 1921.

This species was described from Arizona and previously reported from Iowa by Slater (1951). Since that time a number of additional specimens have been taken from the same locality at Sioux City, Woodbury County (JAS).

Ischnodemus hesperius Parshley, 1922.

This prairie form was described from South Dakota and has been taken in Iowa from Story and Kossuth counties (ISC).

Blissus leucopterus (Say), 1832.

This is in the infamous "chinch bug" of economic literature that periodically does tremendous damage to field crops throughout the midwest. The species occurs throughout both Iowa and Illinois.

Blissus iowensis Andre, 1937.

This species was described from Iowa. The holotype, allotype and a number of paratypes are in the ISC collection. It may be noted that the scutellum is not impunctate as stated in the original description. I also find the antennal measurements of the holotype to be 1:2:3:4, .12 mm., .30 mm., .22 mm., .45 mm. The color of the third antennal segment varies from entirely piceous as in the type to pale yellow. The species will not key correctly in the Torre-Bueno (1946) "Synopsis."

County records: IOWA: Appanoose (HMH); Clark, Page, Taylor (Decker & Andre, 1938); Union (Andre, 1937, Decker & Andre, 1938); Wapello (HMH).

SUBFAMILY GEOCORINAE STAL 1862.

TRIBE GEOCORINI BERGROTH 1921.

Hypogeocoris piceus (Say), 1832.

The striking species is uncommon throughout both states. The available records are too scanty to yield reliable intrastate distribution data, but it probably will be found to occur throughout both Iowa and Illinois.

The species was reported from Illinois by Uhler (1876, as *Geocoris piceus* Say) and by Van Duzee (1917, as *Isthmocoris piceus* Say).

County records: IOWA: Henry (IIS); Van Buren (JAS).

ILLINOIS: Champaign (JAS); Cook (WG, JAS); McHenry (INHS).

Geocoris punctipes (Say), 1832.

This insect illustrates very well the northward extension of austroriparian species up the Mississippi valley. The records are confined to the southern counties of Illinois, where the insect appears to be rather common.

County records: ILLINOIS: Alexander, Calhoun, Gallatin, Jackson, Lawrence, Massac, Pope, Pulaski, Union, Washington (INHS).

Geocoris frisoni Barber, 1926.

This species was described from Mason county, Illinois. The holotype is in the Illinois Natural History Survey collection. The species appears to be relatively common along the sand areas of the Illinois river but rather rare elsewhere.

County records: IOWA: Henry, Wapello (JAS).

ILLINOIS: Carroll (INHS); Cass (Barber, 1926); Jo Daviess, Kankakee, Mercer (INHS); Mason (INHS, Barber, 1926); Ogle (INHS); Morgan (Oregon St. Coll.; Barber, 1926).

Geocoris bullatus (Say), 1832.

This is a widely distributed species occurring throughout most of the northern United States. Records are suprisingly scarce, but indicate a range over all of Iowa. From Illinois no records are available from the southern half of the state.

The species has been reported from Illinois by Uhler (1876), Forbes (1900), Vestal (1913) and Van Duzee (1917), and from Iowa by Osborn and Gossard (1891) and Osborn (1892).

County records: IOWA: Carroll, Clayton (ISC); Fremont (CW); Hamilton (ISC); Jones (CW); Lucas, Marshall (ISC); Palo Alto (JAS); Story (ISC, Latta 1928); Wapello (HMH); Woodbury (ISC, JAS).

ILLINOIS: Boone (JAS); Champaign (INHS); Cook (WG); Mason (Vestal 1913); McHenry (INHS).

Geocoris discopterus Stal, 1874.

This insect has often been reported in the literature as a variety of the preceding species, but is considered a distinct species by Barber (1949). The only available records are from Champaign and McHenry counties in Illinois (INHS).

Geocoris uliginosus (Say), 1832.

This is a very widely distributed species and in its various color varieties is the commonest member of the genus in the Midwest. The variety *limbatus* Stal is the only named variety that appears to have much geographic significance and is the only variety listed separately in the present paper.

There appears, from the present data, to be a distributional replacement of typical *uliginosus* and varieties *lateralis* and *speculator* by variety *limbatus* in Iowa and in the northern half of Illinois. The species, other than the last named variety, is known from only four Iowa counties, two of these in the southern tier of counties, whereas a number of records are present from the southern half of Illinois.

The species is reported from Illinois by Uhler (1876) and Van Duzee (1917).

County records: IOWA: Decatur, Dubuque (JAS); Lee (ISC); Story (ISC, JAS).

ILLINOIS: Calhoun, Cass, Champaign, Clay (INHS); Coog (WG); Jackson, Macoupin (INHS); Madison (JAS); Massac, Morgan (INHS); Piatt (INHS, JAS); Pope, Union, Vermilion, Washington (INHS).

Geocoris uliginosus var. *limbatus* Stal, 1874.

This well marked variety, as discussed above, is distributed through Iowa and the northern half of Illinois, where it is much more common than typical *uliginosus*.

The variety has been reported from Illinois by McAtee (1914), and as a distinct species by Uhler (1876). From Iowa it has been reported by Osborn (1892, as *Geocoris limbatus*) and Hendrickson (1930).

County records: IOWA: Clayton, Floyd, Hamilton, Hancock, Iowa (ISC); Jones (CW); Keokuk (ISC); Kossuth (CW); Lucas, Marshall, Osceola, Sac (ISC); Sioux (CW); Story (ISC, JAS); Van Buren (JAS); Washington (ISC); Webster (JAS); Winnebago (ISC); Winneshiek (JAS); Woodbury (ISC, JAS).

ILLINOIS: Cook, Du Page (WG); Jo Daviess, Kankakee, Mason, McHenry (INHS); McLean (WG); Ogle (INHS); Piatt (JAS); Rock Island (INHS).

SUBFAMILY PACHYGRONTHINAE STAL 1865.

Phlegyas abbreviatus (Uhler), 1876.

This is one of the commonest lygaeids throughout Iowa and Illinois and is distributed over much of the United States. In Iowa records are available for 59 counties and for Illinois 20 counties.

The species has been reported from Illinois by Hart (1907) as *Phlegyas annulicrus* Stal and by Van Duzee (1917) and Torre-Bueno (1946), and from Iowa by Osborn (1892, as *Peliopelta abbreviata* Uhl.) and Hendrickson (1930). Uhler (1876) lists Iowa as one of the localities mentioned in the original description of the species.

Oedancala dorsalis (Say), 1832.

This species is widely distributed in the northern and central United States and occurs throughout Iowa and Illinois.

It has been previously recorded from Iowa by Osborn (1892) and Hendrickson (1930).

County records: IOWA: Adams (IIS); Boone (JAS); Bremer, Butler (IIS); Clayton (IIS, ISC); Dallas, Davis (IIS); Delaware (ISC); Des Moines, Fremont, Grundy, Henry (IIS); Iowa (ISC); Jackson, Jefferson (IIS); Johnson (ISC, JAS, Hendrickson, 1930); Jones (IIS, ISC); Lee (ISC); Linn (ISC, IIS); Louisa (IIS); Mahaska (IIS); Monroe (CW); Muscatine (IIS); Page (ISC); Sioux (IIS); Story (HMH, ISC, JAS); Tama, Van Buren (ISC, IIS); Wapello (JAS); Washington (IIS, ISC); Woodbury (IIS).

ILLINOIS: Champaign (INHS, JAS); Cook, Du Page, Jackson (INHS); Jo Daviess (JAS); Kankakee, Lake, Marion, Massac, McHenry, McLean (INHS); Piatt (INHS, JAS); Pulaski, St. Clair, Union, Vermilion, Washington (INHS).

Subfamily Rhyparochrominae Stal 1862.

tribe myodochini stal 1872.

Myodocha serripes (Olivier), 1811.

This striking species is common and widely distributed over much of the United States. It probably occurs throughout Iowa and Illinois, although records from the northern counties of the former are lacking.

This species was reported from Illinois by Uhler (1876), Van Duzee (1917), Burks (1934) and from Iowa by Osborn (1892).

County records: Iowa: Adair (CW); Appanoose (IIS, ISC); Benton, Boone (ISC); Bremer, Clinton (IIS); Davis (IIS, ISC); Delaware, Des Moines, Fremont (IIS); Guthrie (ISC); Henry (IIS, ISC); Jefferson, Johnson (IIS); Jones (CW); Keokuk (IIS); Lee (IIS, ISC); Linn (IIS, JAS); Louisa, Madison, Mahaska, Monroe (IIS); Muscatine, Page (IIS, ISC); Poweshiek, Scott (IIS); Story (ISC, IIS, JAS, HMH); Taylor (IIS); Van Buren, Wapello (IIS, ISC); Washington (IIS); Wayne (CW); Webster (IIS).

Illinois: Alexander (WG); Champaign (INHS, JAS); Cook, Du Page, Jackson (WG); McHenry, McLean, Piatt, Union, Vermilion, Wabash, Washington (INHS).

Heraeus plebejus Stal, 1874.

This is a widely distributed although scarce species. It is probably distributed over both states although few records are available.

County records: Iowa: Henry (IIS); Story (HMH).

Illinois: Champaign (JAS); Cook (WG); Madison (JAS); Morgan, Stephenson (INHS).

Sphaerobius insignis (Uhler), 1872.

The general distribution is northern in the United States. In Iowa and Illinois this northern distribution is reflected in the distributional data. In Illinois it has been taken only in one county and that in the northeastern corner of the state.

The species has been reported from Iowa by Hendrickson (1930).

County records: Iowa: Bremer (IIS); Calhoun, Carroll (ISC); Dickinson (IIS, Hendrickson, 1930); Hamilton (ISC, HMH); Hancock, Kossuth, Lyon (ISC); Mahaska (CW); Osceola (IIS, ISC); Palo Alto (ISC, JAS); Story (ISC, HMH); Winnebago (ISC); Woodbury (ISC, JAS).

Illinois: Lake (INHS).

Ligyrocoris diffusus (Uhler), 1871.

This is one of the most common members of the subfamily in the Midwest and is widely distributed over much of the northern United States. It occurs throughout Iowa and Illinois, although few records are available for the southern third of the latter state. Records are available from 62 Iowa counties and 17 from Illinois.

The species has been reported from Illinois by Vestal (1913) and Balduf (1939) and from Iowa by Hendrickson (1928, 1930). The records of *Ligyrocoris sylvestris* L. by Forbes (1905) and Hart (1907) for Illinois, and Osborn (1892) for Iowa very probably should be referred here.

Ligyrocoris sylvestris (Linné), 1758.

This species is distributed through northern North America and the northern Palearctic region. It is probably confined in Iowa and Illinois to the

northern counties, although I have not seen specimens from Iowa. In Illinois specimens have been taken in Cook (WG), and Lake (INHS), counties, both in the northeastern corner of the state.

The species, as noted above, has been reported from Illinois by Forbes (1905), Hart (1907) and Blatchley (1926) and from Iowa by Osborn (1892). The earlier records probably are referable to *L. diffusus* Uhl. The records of *Pamera vicina* Dallas from Little Rock, Iowa, by Osborn (1898, 1899) may belong here as Barber (1949) states that the Dallas species is a synonym of *sylvestris*. No specimens from Little Rock are at present in the Iowa State College collection.

Ligyrocoris obscurus Barber, 1921.

One of the localities mentioned by Barber in the original description of this rare species is Ogle County, Illinois. Records are also present from Cook County, Illinois (WG).

Ligyrocoris slossoni Barber, 1914.

This is a southern species. It is represented in the INHS collections from Washington County, Illinois, a county in the southern portion of the state. This specimen was determined by Mr. Barber.

Ligyrocoris abdominalis (Guerin), 1857.

This like the preceding is a southern species. It is included as a member of the Illinois fauna on the basis of specimens determined by Mr. Barber from Mason County, Illinois (INHS).

Ligyrocoris coloradensis Barber, 1921.

This is a western species taken at lights on two separate occasions at Ames, Iowa (Story County), (JAS).

Pachybrachius basalis (Dallas), 1852.

This is a widely distributed species over much of the United States and is probably found throughout Iowa and Illinois. Records are scattered from northern and western Iowa.

The species has been reported from Illinois by Uhler (1876, as *Pamera basalis*), Van Duzee (1917, as *Orthaea basalis*) and Torre-Bueno (1946, as *Orthaea basalis*) and from Iowa by Osborn (1892, as *Pamera basalis*).

County records: IOWA: Benton, Boone (ISC); Bremer, Clarke (IIS); Clinton (CW); Decatur (ISC, IIS); Des Moines, Dickinson, Franklin (IIS); Fremont, Greene (ISC); Henry (IIS, HMH); Iowa, Jefferson (IIS); Johnson (CW); Keokuk, Lee (ISC, IIS); Louisa (IIS); Lucas (ISC); Muscatine (IIS, ISC); Page (ISC); Story (ISC, JAS, HMH); Van Buren (IIS, ISC, JAS); Wapello, Washington (IIS).

ILLINOIS: Champaign, Clay (INHS); Cook (INHS, WG); Edwards, Lake, McHenry, Piatt, Pulaski, St. Clair, Tazewell, Union, Washington (INHS).

Pachybrachius bilobata (Say), 1832.

This is a species of distinctly southern distribution in the United States. It is a rare species in the area under consideration being known only from Story County, Iowa (JAS) and Alexander County, Illinois (INHS). Osborn (1892) reported the species, as *Pamera bilobata* Say, from Iowa and this early record is apparently confirmed by that from Story County.

Pachybrachius servillei (Guerin), 1857.

Like the preceding species, this is a distinctly southern species, whose inclusion in the present list is based on specimens in the INHS collection from Alexander, Pulaski, and Union counties in extreme southern Illinois.

Zeridoneus costalis (Van Duzee), 1909.

This species is widely distributed in the northern states. It appears to be a rare insect in Iowa and Illinois although possibly distributed over both states.

It has been reported from Iowa by Hendrickson (1930).

County records: IOWA: Kossuth (ISC, Hendrickson, 1930); Story (ISC, HMH); Sioux (Hendrickson, 1930); Winnebago (ISC, Hendrickson, 1930).

ILLINOIS: Cook (WG); Wabash (INHS).

Perigenes constrictus (Say), 1832.

This species appears to be relatively common throughout Iowa and Illinois and is of general distribution over the northern United States.

The species was reported from Illinois by Hart (1907) and from Iowa by Osborn (1892) in the genus *Ligyrocoris*.

County records: IOWA: Boone (IIS, JAS); Buchanan (IIS); Clayton (ISC); Davis (JAS); Dickinson, Dubuque, Emmet, Henry (IIS); Jackson (ISC, IIS); Jones (IIS); Keokuk (ISC); Lee, Lyon, Monona (IIS); Monroe (HMH); Muscatine (IIS); Story (ISC, JAS, HMH); Wapello (IIS); Winnebago (ISC); Winneshiek (IIS, JAS).

ILLINOIS: Champaign, Clay (INHS); Cook, Du Page (WG); Jackson, Johnson, Lake, Mason, McHenry, McLean, Menard, Morgan (INHS); Randolph (JAS); Tazewell, Washington (INHS).

Perigenes similis Barber, 1906.

This species appears to be more common in the southern states (see Froeschner, 1944), but is a scarce insect in Iowa and Illinois.

County records: IOWA: Davis, Story (JAS).

ILLINOIS: Champaign, Madison (JAS).

Cnemodus mavortius (Say), 1832.

This is a widely distributed although scarce species. Available records are too scattered to indicate much concerning the distribution in Iowa and Illinois.

It has been reported from Iowa by Osborn (1892).

County records: IOWA: Davis, Fremont, Henry, Muscatine (IIS); Story (JAS, HMH); Van Buren (ISC); Winnebago (IIS).

ILLINOIS: Champaign (INHS, JAS).

Pseudocnemodus canadensis (Provancher), 1886.

This is a northern ranging species in North America. From the paucity of available records it appears to be a scarce species in Iowa and Illinois.

The species was reported from Iowa by Hendrickson (1930).

County records: IOWA: Boone (JAS); Hamilton, Osceola (ISC); Story (HMH, ISC, JAS).

ILLINOIS: Piatt (INHS).

Ptochiomera nodosa Say, 1832.

This bizarre little species has not yet been taken in northern Illinois and in Iowa is known only from the extreme southeastern counties.

County records: IOWA: Des Moines (ISC); Henry, Van Buren (IIS).
ILLINOIS: Champaign, Jackson, Union, Washington (INHS).

Sisamnes clavigera (Uhler), 1895.

This scarce little species is known from a number of Iowa counties, but has not yet been taken in Illinois.

County records: IOWA: Boone (J. Lattin coll.); Cass (CW); Fremont, Guthrie (ISC); Mahaska (CW); Mills (ISC); Plymouth, Pottawattamie (CW); Story (HMH, JAS); Union (CW).

TRIBE RHYPAROCHROMINI STAL 1872.

Ozophora picturata Uhler, 1871.

This appears to be a rather common species in more southern states, but it is a very uncommon insect in Iowa and Illinois.

County records: IOWA: Henry (IIS).
ILLINOIS: Champaign, Jackson (INHS); St. Clair (JAS).

Stygnocoris rusticus (Fallen), 1807.

This species is northern in distribution in North America and there are few records south of Canada. It was first reported from Illinois by Barber (1948) from a specimen collected by the writer at Belvidere, Boone County, Illinois (JAS) which is located in the extreme northern tier of counties.

Antillocoris minutus (Bergroth), 1895.

This species has a wide distribution over much of the eastern United States.

County records: IOWA: Boone, Polk (JAS); Story (HMH, JAS).
ILLINOIS: Champaign (INHS); Cook, Lake (WG); Vermilion (INHS).

Antillocoris pilosulus (Stal), 1874.

The range of this small species is southern in the United States.

County records: IOWA: Lee, Story (ISC).
ILLINOIS: Champaign (JAS).

Peritrechus fraternus Uhler, 1871.

This scarce species is probably distributed over both states, although records are sparse and scattered. In Illinois records are available only for the northeastern corner of the state, but a number of unlabeled Hart specimens in the INHS may be from the sand areas about Havana.

County records: IOWA: Crawford (IIS); Dallas (ISC); Davis (JAS); Dickinson, Henry (IIS); Lee (ISC); Page (CW); Story (ISC, JAS); Van Buren, Washington, Wright (IIS).
ILLINOIS: Cook (WG); McHenry (INHS).

TRIBE BEOSINI STAL 1872.

Sphragisticus nebulosus (Fallen), 1807.

This is a common species in Iowa and Illinois and over much of the northern United States and is widely distributed in the Palearctic region. Records are lacking for the southern portion of Illinois.

The species has previously been reported from Illinois under the name *Rhyparochromus fallax* Say, a synonym, by Uhler (1872) and from Illinois by Uhler (1876, as *Trapezonotus nebulosus*), Forbes (1900, 1905), Hart (1907) and Van Duzee (1917) and from Iowa by Osborn (1892, as *Trapezonotus nebulosus*).

County records: IOWA: Boone (ISC, JAS); Buchanan (JAS); Calhoun (ISC); Dallas, Des Moines, Dickinson (IIS); Fremont (ISC); Hamilton (JAS); Hancock (ISC); Henry (IIS); Ida, Johnson, Marshall, Page (ISC); Story (HMH, ISC, JAS); Van Buren (IIS); Wayne, Winnebago (ISC); Wright (IIS).

ILLINOIS: Champaign (INHS); Cook (WG); Mason, McHenry, Rock Island (INHS, Hart, 1907).

Alphanus umbrosus (Distant), 1893.*

This is a very widely distributed species. There are many records for Iowa, the majority concentrated in the southern half of the state. In Illinois records are absent from the southern half of the state although the species almost certainly occurs there.

The species has been reported from Illinois by Forbes (1905) and Vestal (1913) under the name *Microtoma atrata* Goeze and from Iowa by Osborn (1892) as *Microtoma carbonaria* Rossi.

County records: IOWA: Records available for 43 counties, the majority in the southern half of the state.

ILLINOIS: Champaign (INHS, JAS); Cook (WG); Knox (INHS); Mason (Vestal, 1913); McHenry, Morgan, Piatt (INHS).

Uhleriola floralis (Uhler), 1895.

The range of this species is distinctly western in the United States. It appears to reach the eastern limit of its range in Illinois where it was first reported by Slater (1948). Osborn (1898, as *Rhyparochromus floralis* Uhl.) reported the species from Iowa.

County records: IOWA: Clarke, Decatur (HMH); Des Moines (IIS); Hamilton, Mills (CW); Lucas (IIS); Page (ISC); Story (HMH, ISC, JAS, Osborn, 1898); Taylor (CW); Union, Van Buren (ISC).

ILLINOIS: Champaign (JAS); Cook (WG, JAS).

TRIBE GONIANOTINI STAL 1872.

Emblethis vicarius Horvath, 1908.

This species ranges widely across the United States but appears to be much the most common in the western states. Records indicate a distribution throughout Iowa, but it has not yet heen taken in southern Illinois.

The species was reported from Illinois by Uhler (1876) under the name *Emblethis arenarius* L. and Osborn reported it from Iowa under the same name in 1890 and 1892. It was reported from Illinois under the name *Emblethis griseus* Wolff by Forbes (1900) and Hart (1907) and also reported from Illinois by Van Duzee (1917) and from Iowa by Hendrickson (1930).

County records: IOWA: Black Hawk (ISC, JAS); Boone (JAS); Cerro Gordo (ISC); Clay (IIS); Decatur (CW); Dickinson (IIS); Floyd, Guthrie (ISC); Hamilton (CW); Henry (IIS); Jackson (ISC); Lee, Louisa (IIS); Mills (ISC); Monroe, Muscatine (IIS); O'Brien (CW); Osceola (IIS); Pottawattamie (ISC); Story (HMH, ISC, JAS); Woodbury, (ISC).

ILLINOIS: Cook (WG); Mason, McHenry (INHS).

*China (1943) indicates that *Rhyparochromus* Hahn nec. Curtis et Auctt.) should be used for this species. I have used *Aphanus* here with the feeling that a faunal paper is not an appropriate place to introduce so drastic a change in the literature of the Nearctic species.

TRIBE LETHAEINI STAL 1872.

Drymus unus (Say), 1832.

This is a scarce species, most of the available records being from the northern states.

County records: IOWA: Boone (JAS); Henry (IIS); Story (ISC, HMH, JAS); Winneshiek (ISC).

ILLINOIS: Champaign (INHS); Cook (WG); Vermilion (INHS).

Drymus crassus Van Duzee, 1910.

The general distribution from the literature is similar to that of the preceding species. Specimens have recently been examined from Texas. Like *unus* it is represented by only a few scattered records in Iowa and Illinois.

County records: IOWA: Henry (IIS); Story (HMH, ISC, JAS); Winneshiek (ISC); Woodbury (JAS).

ILLINOIS: Champaign (JAS); Cook (WG); Vermilion (INHS, JAS).

Eremocoris ferus (Say), 1832.

This is a wide ranging species in the United States. Records from Iowa and Illinois are surprisingly few and scattered.

The species has been reported from Illinois by Uhler (1876), Van Duzee (1917) and Torre-Bueno (1946) and from Iowa by Osborn (1892).

County records: IOWA: Boone (JAS); Hamilton (HMH); Henry (IIS); Monroe (CW); Story (HMH, ISC, JAS).

ILLINOIS: Champaign (JAS); Cook (WG, INHS); Hardin (INHS).

Scolopostethus thomsoni Reuter, 1874.

This species ranges very widely over northern North America and much of the Palearctic region. It has not been taken in the southern half of Illinois.

The Osborn (1898) Iowa record of *Scolopostethus affinis* Uhler should be referred to this species. The Osborn specimens are in the Iowa State College collection.

County records: IOWA: Henry, Mahaska (IIS); Story (HMH, ISC, JAS).

ILLINOIS: Cook (WG); Jo Daviess, McHenry (INHS, JAS); Lake (WG); Vermilion (INHS).

Cryphula parallelogramma Stal, 1874.

This is a wide ranging species in the Unted States although only a few scattered records are available from Iowa and Illinois.

County records: IOWA: Boone (JAS); Henry, Louisa (IIS); Pottawattamie (JAS); Story (HMH, ISC, JAS); Van Buren (IIS, JAS); Washington (ISC).

ILLINOIS: Champaign (INHS, JAS); Cook (WG).

Xestocoris nitens Van Duzee, 1906.

This rare species was previously known only from New England and New York. A single locality record is available for each state.

County records: IOWA: Pottawattamie (JAS, ISC).

ILLINOIS: Cook (WG).

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Department of Zoology and Entomology
Iowa State College
Ames, Iowa

