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Cover Page Footnote

I am very grateful to Tommy McElrath (INHS) for the privilege of studying the material under his care, for his assistance in navigating old and fragile accession ledgers, for supplying information on W. V. Balduf and Andreas Bolter, and for his general support. I also owe thanks to Ed DeWalt (INHS) for making some of his specimens available for study. I greatly appreciate both Tamera Lewis' (USDA-ARS) and Laura Miller's (WVDA) advice and willingness to share their vast knowledge concerning the identification and distribution of various species of minute pirate bugs and lace bugs, respectively. I also thank Bethany Anderson (UIUC, University Archives) for her support and efforts in accessing data from the Shelford Papers. Finally, I am indebted to Steve W. Chordas III, Tommy McElrath, and David A. Rider for their generous effort and massive time investment in reviewing this long, data-heavy manuscript. Thanks to their discernment and diligence, roughly 20% of the original submitted records were rightly culled and many species' distribution summaries were greatly improved, mostly through the unearthing of various obscure references and/or overlooked records. Their suggested stylistic improvements also made the contribution clearer and more navigable. There is no question that each significantly enhanced the quality and utility of this study, and for that, I give them my earnest thanks.

New State and Provincial Records for Some Nearctic True Bugs (Hemiptera: Heteroptera) from the Illinois Natural History Survey Insect Collection

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Abstract

157 state records for 133 species of Heteroptera (Hemiptera) in 99 genera in 33 different families from 40 states are newly-reported based on material housed in the Illinois Natural History Survey Insect Collection. Families represented by new records include Acanthosomatidae, Alydidae, Anthocoridae, Aradidae, Blissidae, Belostomatidae, Coreidae, Corixidae, Cymidae, Gelastocoridae, Geocoridae, Hebridae, Hydrometridae, Largidae, Lasiochilidae, Lygaeidae, Mesoveliidae, Miridae, Nabidae, Naucoridae, Nepidae, Notonectidae, Piesmatidae, Pleidae, Reduviidae, Rhopalidae, Rhyparochromidae, Saldidae, Schizopteridae, Scutelleridae, Thyreocoridae, Tingidae, and Veliidae, and the following 9 records represent new family records: Acanthosomatidae (West Virginia), Cymidae (Kentucky), Hebridae (Tennessee), Lygaeidae (Delaware), Naucoridae (Georgia), Piesmatidae (Mississippi, North Dakota), Pleidae (North Dakota), and Schizopteridae (Illinois) are reported for the first time. An updated and annotated distribution within the United States and Canada is included for each species. Corroborative distributional notes are additionally included for four species.

Keywords: faunistics, distribution

True bugs (Hemiptera: Heteroptera) are a morphologically diverse and globally distributed group of hemimetabolous insects, generally recognized by the suctorial mouthparts and usually half-coriaceous, half-membranous forewings (e.g., Schuh and Weirauch 2020). Constituting part of the fifth largest order of insects, more than 43,000 species of true bugs arranged in 88 families have been described worldwide (Schuh and Weirauch 2020). As might be expected, from heightened morphological diversity follows diversity in habitat and natural history. In both cases, heteropterans do not disappoint expectation, being distributed throughout nearly every major biome and accompanying habitats on Earth, with the exception of marine aquatic and polar desert (Weirauch et al. 2019, Schuh and Weirauch 2020).

Studying the biogeography of Heteroptera and other organisms can influence and yield insights into their phylogenetic histories and ecologies as well as conservation and management strategies (e.g., generally, Whittaker et al. 2005, Ricklefs and Jenkins

2011, Ronquist and Sanmartín 2011, Heads 2015). However, biogeographical studies are underpinned by presence-absence data, and incomplete knowledge of geographic distributions, an impediment in organismal biology termed the Wallacean shortfall, limits the inferences that can be made. Therefore, augmenting presence-absence data, where possible, is of great utility (e.g., Swanson 2019).

Toward this goal, biological collections become an indispensable resource. As repositories of organisms and their associated occurrence data, biological collections are particularly well-suited to provide and fortify the basic biogeographical units, which in turn can support meaningful, evidence-based conclusions applicable in a wide range of scientific disciplines (e.g., Suarez and Tsutsui 2004). The Illinois Natural History Survey Insect Collection (INHS) (Dmitriev 2015) is one such repository. Founded in 1858, the INHS is the largest and oldest institutional arthropod collection in the state of Illinois. The collection currently holds around 7 million prepared specimens, reaching a global

level in taxonomic scope and with some local specimens dating back to the mid-1800s.

The purpose of this study was to verify and compile unreported state-level records for true bug species in the United States while concurrently sorting and identifying undetermined heteropteran material present in the INHS. As a result of this survey and effort, 157 state records for 133 species of Heteroptera are newly-reported herein, including 9 state records for a family-level taxon.

Materials and Methods

General methodology of specimen examination and identification, data transcription, and record vetting follows that of previous treatments (e.g., Swanson 2018, 2019), with the main difference being an exclusive focus on specimens present in the INHS (except in a few cases where specimens in the author's personal collection bolster new records).

Many specimens were newly identified by the author. However, many were previously identified, sometimes by experts in a particular group (e.g., Miridae by H. H. Knight, Notonectidae by H. B. Hungerford). Even in these latter cases, identifications were still corroborated by the author, although often in the context of updated taxonomies.

Complete locality data are reported, although they are not reported verbatim (e.g., "22-5-1943" is rendered 22 May 1943). Any additions, changes, or interpretive elements are shown in brackets; most commonly, this comprises counties not included on the label and specimen sexes and counts. Although it is not explicitly transcribed among the Material Examined, each specimen, unless otherwise noted, bears a "Det. D. R. Swanson [YEAR]" label and is deposited in the Illinois Natural History Survey Insect Collection.

Concerning species distributions, the authority on which a state having a published record for a given species is based belongs to the corresponding chapter in Henry and Froeschner's (1988, 1992) catalog, unless otherwise noted. These distributions have been cross-referenced and annotated with overlooked pre-1988 references as well as faunistic literature published post-1988. New records are presented in bold type. The abbreviations used for each U.S. state and Canadian province or territory follow the United States Postal Service and the Canada Post Corporation, respectively.

Material mentioned in this study comes from one of the following biological collections:

DRS—Daniel R. Swanson, personal collection

INHS—Illinois Natural History Survey Insect Collection, Champaign, Illinois (Dmitriev 2015)

Results

As a result of this investigation, 157 new state records for 133 species in 99 genera in 33 families have been compiled and are reported herein.

Distribution-wise, the following 40 states are represented among the new records: AL, AR, AZ, CA, CO, DE, FL, GA, IA, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, MT, NC, ND, NE, NJ, NM, NV, OH, OK, OR, PA, SC, SD, TN, TX, WA, WI, WV, WY. A new record for one Canadian province also is included: ON.

Twenty-two of the records, roughly one-seventh of the total reported herein, come from Illinois. This highlights the importance of determining unidentified material in biological collections: even in a state with a long history of biological survey, additional faunistic discoveries have yet to be made. The remaining six-sevenths, representing extra-Illinois records, illustrate the breadth and potential contribution of the INHS to biodiversity knowledge well beyond its home state.

Taxa-wise, 33 of the 57 heteropteran families are represented by new records (Table 1): Acanthosomatidae, Alydidae, Anthocoridae, Aradidae, Belostomatidae, Blissidae, Coreidae, Corixidae, Cymidae, Gelastocoridae, Geocoridae, Hebridae, Hydrometridae, Largidae, Lasiochilidae, Lygaeidae, Mesovelidae, Miridae, Nabidae, Naucoridae, Nepidae, Notonectidae, Piesmatidae, Pleidae, Reduviidae, Rhopalidae, Rhyparochromidae, Saldidae, Schizopteridae, Scutelleridae, Thyreocoridae, Tingidae, and Veliidae. Of these, the following 9 records represent new state records for the family: Acanthosomatidae (West Virginia), Cymidae (Kentucky), Hebridae (Tennessee), Lygaeidae (Delaware), Naucoridae (Georgia), Piesmatidae (Mississippi, North Dakota), Pleidae (North Dakota), and Schizopteridae (Illinois).

A substantial number of records come from collections made by Walter Valentine Balduf around Eagles Nest and Ely in Saint Louis County, Minnesota. These collections occurred when Balduf was an Assistant Professor (1940, 1941, 1942), Professor (1953, 1957), and Professor Emeritus (1958, 1959) at the University of Illinois at Urbana-Champaign (Lampe et al. 1970). Balduf's Collected Papers, which includes research

Table 1. Taxonomic distribution of the 157 new state records reported herein, arranged by family.

Family	No. of Records	Taxa Represented	
		Genera	Species
Acanthosomatidae	2	1	1
Alydidae	5	2	4
Anthocoridae	4	4	4
Aradidae	14	5	12
Belostomatidae	2	2	2
Blissidae	1	1	1
Coreidae	7	7	7
Corixidae	10	5	9
Cymidae	2	1	1
Gelastocoridae	1	1	1
Geocoridae	2	1	2
Hebridae	1	1	1
Hydrometridae	2	1	1
Largidae	1	1	1
Lasiochilidae	1	1	1
Lygaeidae	13	7	10
Mesoveliidae	1	1	1
Miridae	28	22	25
Nabidae	5	2	3
Naucoridae	1	1	1
Nepidae	2	2	2
Notonectidae	3	1	2
Piesmatidae	2	1	2
Pleidae	1	1	1
Reduviidae	3	3	3
Rhopalidae	3	3	3
Rhyparochromidae	11	8	9
Saldidae	11	3	8
Schizopteridae	1	1	1
Scutelleridae	4	2	3
Thyreocoridae	1	1	1
Tingidae	11	5	9
Veliidae	1	1	1
TOTAL:	157	99	133

notes, publications, field notebooks, and correspondences, are deposited in the UIUC University Archives (Record Series Number: 15/8/20), although, given accessibility issues, these were not consulted for this study.

These collections are significant because the heteropteran fauna of Minnesota has been poorly-documented in the literature, particularly in comparison with other Midwestern states. State-specific faunistic treatments of true bugs include Lugger (1900: general and injurious), Bennett and Cook (1981: semi-aquatic), Tinerella and Gundersen (2005: Corixidae), and Koch et al. (2014: Pentatomiidae). Roughly 480 heteropteran species had been recorded from Minnesota prior to this treatment (Swanson, unpublished).

Likewise, a substantial number of records come from the Andreas Bolter Collection. Andreas (or Andrew) Bolter was a German-born émigré and founder of the Chicago-based company Illinois Iron Works. As a wealthy businessman, he was able to pursue interests outside the industry, perhaps most notably as an amateur entomologist and owner of the one of the most extensive private insect collections of the time (Sheppard 2017, Alberts 2018). The collection was accessioned to the University of Illinois' Museum of Natural History after Bolter's death in 1900, and in 1948, it was subsumed into the growing collection of the Illinois Natural History Survey (Alberts 2018). It seems likely that Bolter was mostly a patron of collectors, as he was known to have paid handsomely for some of his specimens (e.g., Alberts 2018), although at least a small portion was thought to have been collected by Bolter himself. Unfortunately, this is mostly unknowable, as the specimens usually possess only one or two labels: (1) a single-word abbreviation indicating the state (or country, for exotic material) whence the insect was collected; and (2) a label reading "Andreas Bolter Collection", which was likely added later as part of accessioning. However, it is known that all specimens were collected before 1900, the year of Bolter's death, and likely were collected during the prior two or three decades. Thus, even with the very general locality data, the specimens of the Bolter Collection provide important bio-historical context, showcasing a fauna whose populations and accompanying ranges had yet to experience the most recent 120 years of anthropogenic degradation.

Infraorder DIPSOCOROMORPHA

Family SCHIZOPTERIDAE

Glyptocombus saltator Heidemann, 1906

Material examined: **ILLINOIS:** [Alexander Co.], Thebes, 7 December 1939, in ground cover in beech woods, H. H. Ross, det. H. H. Ross 1943, INHS Insect Collection 761627 [1 ♂, 1 ♀]; **Union Co.**, Atwood Ridge nr. Ware, M. W. Sanderson, Acc. 50138, INHS Insect Collection 761577 [1 ♂].

Notes: Henry and Froeschner (1992) indicated that the Washington record listed in Henry and Froeschner (1988) was erroneous and referred to the District of Columbia.

Distribution: USA: AR (Allen and Carlton 1989), DC, GA (Allen and Carlton 1989), IL, MD, MI, MS (Weirauch et al. 2018), OK (Weirauch et al. 2018), TN, TX (Weirauch et al. 2018), VA (Roble and Hoffman 2000).

Infraorder GERROMORPHA

Family HEBRIDAE

Hebrus buenoi Drake and Harris, 1943

Material examined: **TENNESSEE:** Blount Co., Great Smoky Mountains Nat. Park, Cades Cove, Abrams Creek oxbow, nr. cemetery: 17 S 242956 3942739 (NAD83), 5 August 2008, PPT08-100; P. P. Tinerella, S. J. Taylor, INHS Insect Collection 507558 [1 ♀].

Distribution: Canada: ON (Maw et al. 2000), QC (Roch 2017, 2020); USA: CA, CO, DC, FL, IA, ID, IL, KS, LA, MA, MI, MN (Bennett and Cook 1981), MO, MS, NE, NH (Roch 2017, 2020), NJ, NY, OH, OK (Schaefer and Drew 1967), OR, PA, TN, VA, WI.

Family HYDROMETRIDAE

Hydrometra australis Say, 1831a

Material examined: **OHIO:** Lawrence Co., Lake Vesuvius P[ar]k, 3 July 1965, T. G. & L. G. Marsh, T. Marsh Collection, INHS Insect Collection 469043 [1 adult]; **TENNESSEE:** Blount Co., Great Smoky Mountains Nat. Park, Cades Cove, Methodist Church Pond, 17 S 244803 3943877 (NAD83), 4 August 2008, PPT08-096, P. P. Tinerella & S. J. Taylor, det. P. P. Tinerella 2008, INHS Insect Collection 507494, 507496, 507497 [3 adults]; Putnam Co., 14 May 1966, [no further data], INHS Insect Collection 469039–469041 [3 adults].

Notes: The potential conspecificity of *H. australis* and *Hydrometra martini* Kirkaldy, 1900 (e.g., Polhemus and Chapman 1979) is acknowledged, although the specimens examined fit the concept of *H. australis*.

Distribution: USA: CA, FL, GA, LA, MD (Brown and Bahr 2008), MS, NC (Brimley 1938), OH, TN, TX, VA.

Family MESOVELIIDAE

Mesovelia cryptophila Hungerford, 1924

Material examined: **TEXAS:** Hidalgo Co., Santa Ana Nat. Wldf. Ref., 9 mi. SSW Alamo, 26 May 1980, S. L. Heydon, INHS Insect Collection 664244 [1 ♀].

Distribution: USA: FL, GA, IA, MI, MN (Bennett and Cook 1981), MS, NH (Roch 2017, 2020), NJ, OK, TX.

Family VELIIDAE

Rhagovelia distincta Champion, 1898

Material examined: **NEBRASKA:** Scotts Bluff Co., N. Platte River, W. of Neb. [St. Rt.] 71, 16 September 1989, M. Harris, INHS Hemip. #0044, INHS Insect Collection 654026 [6 ♂♂, 4 ♀♀]; Sioux Co., Niobrara River, Agate Fossil Beds NM, 16 September 1989, M. Harris, INHS Hemip. 0042, INHS Insect Collection 654025 [1 ♂, 2 ♀♀].

Distribution: USA: AZ, CA, CO, ID, MT (Roemhild 1976), NE, NM, TX, UT, WY.

Infraorder NEPOMORPHA

Family BELOSTOMATIDAE

Abedus herberti Hidalgo, 1935

Material examined: **TEXAS:** Brewster Co., Santa Elena Canyon, 3 April 1969, WB & ALB, INHS Insect Collection 473404 [1 adult].

Distribution: USA: AZ, NM, TX, UT.

Benacus griseus (Say, 1831b)

Material examined: **COLORADO:** [Denver Co.], Denver, [year(?):] 1887, [no collector], det. P. P. Tinerella 2008, INHS Insect Collection 473654 [1 adult].

Distribution: Canada: MB, ON, QC; USA: AL, AR, CO, CT (Parshley 1917), DC, FL, GA, IA, IL, IN, KS, KY, LA, MA, MD, ME (Roch 2020), MI, MN, MO, MS, NC, NE, NH (Roch 2007, 2020), NJ, NY, OH, OK (Schaefer and Drew 1964), PA, RI (Parshley 1917), SC, TN, TX, VA, WI, WV.

Family CORIXIDAE

Callicorixa alaskensis Hungerford, 1926a

Material examined: **COLORADO:** [Denver Co.], Denver, 1 June 1879, 5317 ft., [no collector], det. H. B. Hungerford, INHS Insect Collection 444356 [1 ♀].

Distribution: Canada: AB, BC, MB, NB, NL, NS, NT, ON, QC, SK, YT; USA: AK, CO, CT (Jansson 2002), ME (Parshley 1917, as *C. praeusta*), MI, MT, NH, NY, PA, UT, VT (Jansson 2002), WA, WY.

Cenocorixa utahensis (Hungerford, 1925)

Material examined: **WYOMING**: Albany Co., 0.5 mi. N Buford, stream, 20 August 1973, D. W. Webb, det. A. Jansson, INHS Insect Collection 763540 [1 ♂, 1 ♀].

Distribution: Canada: AB, BC, MB, ON, SK; USA: AZ, CO, IA, ID, KS, MI (Chordas et al. 2002), MT (Roemhild 1976), ND, NM, NV, OR, SD, TX, UT, WA, WI, WY.

Corisella tarsalis (Fieber, 1851)

Material examined: **NEBRASKA**: [Lancaster Co.], Lincoln, 1 October 1898, Hart, *Corisella tumida* (Uhler) Det. H. B. Hungerford, INHS Insect Collection 444382–444387 [3 ♂♂, 3 ♀♀].

Distribution: Canada: AB, MB, ON, SK; USA: AZ, CA, CO, CT (Jansson 2002), KS, MA (Jansson 2002), MI (Chordas & Hudson 1999), MT, NE, NM, NY (Hungerford 1948, Jansson 2002), OK, PA, SD, TX, UT, WI.

Hesperocorixa interrupta (Say, 1825)

Material examined: **TENNESSEE**: Blount Co., Great Smoky Mountains Nat. Park, Cades Cove, Methodist Church Pond, 17 S 244812 3943887 (NAD83), 5 August 2008, PPT 08-099, P. P. Tinerella, S. J. Taylor, det. P. P. Tinerella 2008, INHS Insect Collection 507527 [1 ♀].

Distribution: Canada: NB (Maw et al. 2000, Jansson 2002), NS (Maw et al. 2000, Jansson 2002), ON, QC; USA: AL, AR, CA (Uhler 1875), CO (Kirkaldy and Torre-Bueno 1909), CT, DC, FL, GA, IL, IN, LA, MA, MD, ME, MI, MN, MO, NC, NE, NH, NJ, NY, OH, PA, RI, SC, TN, TX (Uhler 1875, as “Lower Rio Grande”), VA, VT, WI, WV.

Hesperocorixa minorella (Hungerford, 1926b)

Material examined: **ILLINOIS**: “18450”, “EX. INHS ACCESSION LEDGER #18450 ~DRS, OCT. 2020 USA: ILLINOIS: Lake Co.: Cedar Lake, along shore: 20 June 1892: Charles A[rthur] Hart & S[higetsura] Shiga”, INHS Insect Collection 444459 [1 ♂].

Distribution: Canada: AB, MB, NB, NL, NS, NT, ON, PE (Jansson 2002), QC; USA: CT, IL, KS, MA (Jansson 2002), ME, MI, MN, NH, NY (Jansson 2002), WI.

Sigara alternata (Say, 1825)

Material examined: **NEBRASKA**: [Lancaster Co.], Lincoln, 1 October 1898, Hart, INHS Insect Collection 459942–459943 [2 ♂♂].

Distribution: Canada: AB, BC, MB, NB, NL (Jansson 2002), NS, NT, ON, PE, QC, SK; USA: AR, AZ, CO, CT, DC, IA, ID

(Hampton 2005), IL, IN, KS, MA, MD, ME (Parshley 1917, Jansson 2002), MI, MN, MO, MT (Roemhild 1976), NC, ND, NE, NH, NJ, NM, NY, OH, OK, OR, PA, RI, SD, TN (Green 1937), TX, VA, VT (Jansson 2002), WA, WI, WV, WY.

Sigara douglasensis (Hungerford, 1926b)

Material examined: **ILLINOIS**: [Williamson Co.], Marion, 21 February 1933, Ross & Mohr, det. I. Lansbury 1954, INHS Insect Collection 460076 [1 adult, abdomen missing].

Distribution: Canada: NB, NS (Maw et al. 2000, Jansson 2002), ON, PE (Jansson 2002), QC (Jansson 2002); USA: CT (Jansson 2002), IL, MA, ME (Jansson 2002), MI, MN, NH (Jansson 2002), NJ, NY (Jansson 2002), PA, RI (Jansson 2002), VT (Jansson 2002), WI.

Sigara modesta (Abbott, 1916)

Material examined: **NORTH DAKOTA**: “15875”, “EX. INHS ACCESSION LEDGER #15875 ~DRS, OCT. 2020 USA: N. DAKOTA: [Grand Forks Co.]: Grand Forks: 2 Aug. 1890: Miss [Mary Jane] Snyder”, INHS Insect Collection 460016–460021 [2 ♂♂, 4 ♀♀].

Distribution: Canada: BC, ON, QC (Jansson 2002); USA: AR, CO, CT, DC, DE, IL, IN, KS, LA, MA, MD, ME (Jansson 2002), MI, MN, MO, MS, ND, NE, NH, NJ, NY, OH, OK, PA, RI (Jansson 2002), TN, TX, VA, VT (Jansson 2002), WV.

Sigara virginiensis Hungerford, 1948

Material examined: **ILLINOIS**: Franklin Co., 1 mi. E Parrish, Ewing Creek, 15 November 1973, L. M. Page & L. J. Stannard, det. A. Jansson, INHS Insect Collection 760418 [1 ♀]; Johnson Co., 3 mi. WSW Simpson, Max Cr., 25 October 1975, D. W. Webb, det. A. Jansson, INHS Insect Collection 760417 [1 ♂]; Pope Co., 1 mi. S Robbs, Hayes Creek, 15 November 1973, L. J. Stannard, det. A. Jansson, INHS Insect Collection 760419 [2 ♀♀]; [Williamson Co.], Marion, 22 November 1933, H. Ross & Mohr, det. I. Lansbury 1954, INHS Insect Collection 460125, 460126 [2 ♀♀]; **NORTH DAKOTA**: “15875”, “EX. INHS ACCESSION LEDGER #15875 ~DRS, OCT. 2020 USA: N. DAKOTA: [Grand Forks Co.]: Grand Forks: 2 Aug. 1890: Miss [Mary Jane] Snyder”, det. A. Jansson, INHS Insect Collection 460122–4 [1 ♂, 2 ♀♀].

Distribution: USA: CT (Jansson 2002), DC, GA, IL, MD, NC, ND, NH, NJ, NY (Jansson 2002), OH, PA, RI (Jansson 2002), SC, TN, TX, VA, WV.

Family GELASTOCORIDAE

Nerthra martini Todd, 1954

Material examined: **NEW MEXICO**: “N. Mex.” [no further data], Andreas Bolter Collection, INHS Insect Collection 444325, 444326 [2 ♂♂].

Distribution: USA: AZ, CA, NM.

Family NAUCORIDAE

Pelocoris balius La Rivers, 1970

Material examined: **GEORGIA**: Cook Co., Hwy 37 2 mi. W I-75, 3 May 1971, W[arren] U. & A. R. Brigham, det. P. P. Tinerella 2007, INHS Insect Collection 465039, 465040 [2 adults].

Distribution: USA: FL, GA.

Family NEPIDAE

Nepa apiculata Uhler, 1862

Material examined: **KENTUCKY**: Jessamine Co., Marble Creek, 12 September 1967, PSM, T. Marsh Collection, INHS Insect Collection 465629 [1 adult].

Distribution: Canada: MB, ON, QC; USA: AR (Farris and Harp 1982, Harp 1985), CT, DC, GA, IA, IL, IN, KS, KY, MA, MD, MI, MN, MO, ND (Sites and Polhemus 1994), NH, NJ, NY, OH, OK (Schaefer and Drew 1964), PA, RI, TN (Green 1937), VA (Bobb 1974), VT (Roch 2020), WI.

Ranatra buenoi Hungerford, 1922

Material examined: **INDIANA**: Wayne Co., 27 July 1974, M. R. Farris, det. D. V. Bennett, INHS Insect Collection 465652 [1 adult].

Distribution: USA: AR (Harp and Harp 1980, Huggins and Harp 1983, Harp 1985, Cochran and Harp 1990, Chordas et al. 1996), FL, GA, IL (Sites and Polhemus 1994), IN, KY (Sites and Polhemus 1994), LA, MO, MS, NC, OK (Schaefer and Drew 1964), SC, TN (Bobb 1974), TX, VA.

Family NOTONECTIDAE

Notonecta lunata Hungerford, 1926c

Material examined: **MINNESOTA**: [Saint Louis Co.], Eagles Nest, 20 September 1959 [additional date: 3 August 1959], W. V. Balduf, INHS Insect Collection 465228–465237 [10 adults]; **NEW JERSEY**: “NJ” [no further data], INHS Insect Collection 465460–465463 [4 adults].

Distribution: Canada: NB, NS, ON, PE, QC; USA: CT, DE (Chordas et al. 1999), IL (Tinerella et al. 2009), IN (Polhemus 1997), MD, ME, MI, MN, NH (Chordas,

Ferreira, and Stewart 2005; Roch 2020), NJ, NY, WV (Chordas et al. 1999).

Notonecta unifasciata Guérin-Ménéville, 1857

Material examined: **WYOMING**: “Acc. 27023”, “EX. INHS ACCESSION LEDGER #27023 ~DRS. OCT. 2020 USA: WYOMING: [Teton Co.]: Yellowstone National Park, Yellowstone Lake: warm spring: 3 Aug. 1890: Stephen A. Forbes”, det. H. B. Hungerford 1932, INHS Insect Collection 652435 [2 ♂♂, 1 ♀].

Distribution: Canada: BC; USA: AZ, CA, CO (Polhemus 1997), ID (Harris & Shull 1944), MT (Roemhild 1976), NM, NV, OR, TX, UT, WY.

Family PLEIDAE

Neoplea striola (Fieber, 1844)

Material examined: **NORTH DAKOTA**: Barnes Co., 1 mi SW Nome & Hwy 32, slough, 46°40'42"N 97°48'73"W, 10 August 2001, P. P. Tinerella & R. D. Gordon, NDSIRC, det. INHS Insect Collection 809911–809915 [5 adults]; Bottineau Co., Turtle Mountains, Lake Metigosne State Park, 48°58'90"N 100°20'29"W, D-net from boat, 7 July 1999, P. P. Tinerella & R. D. Gordon, NDSIRC, INHS Insect Collection 809921 [1 adult]; Burke Co., 4 mi S Northgate-Hwy. 8, Dam Rec. Area, 48°55'37"N 102°16'11"W, dip net from boat, 9 July 1999, P. P. Tinerella & R. D. Gordon, NDSIRC, INHS Insect Collection 809919, 809920 [2 adults]; “15875”, “EX. INHS ACCESSION LEDGER #15875 ~DRS. OCT. 2020 USA: N. DAKOTA: [Grand Forks Co.]: Grand Forks: 2 Aug. 1890: Miss [Mary Jane] Snyder”, det. H. B. Hungerford, INHS Insect Collection 46552, 465523, 465596 [3 adults]; Richland Co., Mirror Pool-SNG T135N R52W Sec 8, dip net, 4 September 1998, P. P. Tinerella, NDSIRC, det. P. P. Tinerella 2000, INHS Insect Collection 809905–809907 [3 adults]; Richland Co., Stack Slough, 2 mi N Hwy 11, game area, 46°06'00"N; 97°01'90"W, 10 August 2001, P. P. Tinerella, NDSIRC, INHS Insect Collection 809908 [1 adult]; Richland Co., 1 mi WSW Hankinson, prairie slough, 46°03'13"N 96°55'20"W, 13 August 2001, P. P. Tinerella, NDSIRC, INHS Insect Collection 809909, 809910 [2 adults]; Williams Co., Epping, Spring Brook Dam, 48°15'24"N 103°25'61"W, D-net, 15 July 1999, P. Tinerella & R. Gordon, NDSIRC, INHS Insect Collection 809916–809918 [3 adults].

Distribution: Canada: BC (Scudder 2008), MB, ON, QC; USA: AL, AR, CA, CO (Durfee et al. 1999), CT, FL, IA, IL, IN, KS, LA (Ellis 1952), MA, MD, MI, MN, MO, MS, NC, ND, NE, NH (Roch 2020), NJ, NY, OH,

OK (Schaefer and Drew 1964, Reisen 1975), PA, TX, UT(?), WA, WI (Hilsenhoff 1984), WV, VA.

Infraorder LEPTOPODOMORPHA

Family SALDIDAE

Micracanthia floridana Drake and Chapman, 1953

Material examined: **ARKANSAS**: Faulkner Co., shoreline of Lake Conway, 29 September 1985, Steve Taylor, INHS Insect Collection 698794–698797 [3 ♂♂, 1 ♀].

Distribution: USA: AR, CO, FL, IL, KS, MI, MO, MS, NJ, PA, TX.

Salda anthracina Uhler, 1877

Material examined: **MINNESOTA**: [Otter Tail Co.], Pelican Rapids, Grove Lake, June 1977, A. C. Ashworth, NDSIRC, INHS Insect Collection 935086 [1 ♂]; **SOUTH DAKOTA**: [Brookings Co.], Brookings, 28 June 1965, V. M. Kirk, NDSIRC, INHS Insect Collection 935085 [1 ♀]; [Lawrence Co.], Spearfish Canyon, N. Black Hills, margins of running water, [no date], A. C. Ashworth, NDSIRC, INHS Insect Collection 935084 [1 ♀]; **CANADA: ONTARIO**: [Grey Co.], Owen Sound, Townline Lake, in wet peat, [no date], A. C. Ashworth, NDSIRC, INHS Insect Collection 935087, 935088 [1 ♂, 1 ♀].

Distribution: Canada: BC, NT (Maw et al. 2000), ON, YT (Maw et al. 2000); USA: AK, AL, KS, MI, MN, NE, NH, NJ, NY, OH, PA, SD, TN.

Salda obscura Provancher, 1872

Material examined: **MINNESOTA**: Mahnomen Co., 2 mi. N. Tulaby Lake, 5 July 1979, D. Fischer, NDSIRC, INHS Insect Collection 935083 [1 ♀].

Distribution: Canada: AB, BC (Downes 1934, Maw et al. 2000), MB, NL, NT (Maw et al. 2000), ON (Maw et al. 2000), QC, SK, YT (Maw et al. 2000); USA: AK, CO, ID (Harris and Shull 1944), MI, MN, NV, OR, SD (Harris 1937), WA.

Salda provancheri Kelton and Lattin, 1968

Material examined: **NEW MEXICO**: Rio Arriba Co., Carson National Forest, seep/fen on west-facing side of valley, elev. 9915 ft, 36.90623°N 106.2874°W (WGS84), 3 August 2009, S. J. Taylor, J. Jacoby, J. D. Taylor, R. King, Su. King, St. King, sjt09-079, INHS Insect Collection 935097–935105 [4 ♂♂, 5 ♀♀].

Notes: Schuh (1967) stated (of *Salda bouchervillei*) that Drake and Hottes (1950) reported this species from Alaska, New Mexico, and Tennessee and further indicated that records from New Mexico were prob-

ably erroneously identified *Salda buenoi* (McDunnough, 1925). However, Drake and Hottes (1950) did not explicitly mention New Mexico. New Mexico was included anonymously within the general attributed range (i.e., “from Alaska . . . clear across Canada and northern United States and then south into Arizona and Tennessee.”). However, it seems that Schuh mistook “[underlining mine] often found in collections labeled [sic] *Salda obscura* Provancher. VanDuzee. Dat. Hemip. Amer. N. Mex., treated . . .” (Drake and Hottes 1950) as a reference to New Mexico, rather than its intended meaning of “America, North of Mexico” (i.e., titles of Van Duzee 1916, 1917a). Regardless, these specimens indicate that *S. provancheri* does occur within the state.

Distribution: Canada: AB, BC, MB, NB (Maw et al. 2000), NL, NS, NT, ON, PE (Maw et al. 2000), QC, SK, YT (Scudder 1997, Maw et al. 2000); USA: AK, AZ, CA, CO, CT (Parshley 1917, as *Salda coriacea*), GA, IL, IN, KS, MA, ME, MI, MN, MO, ND, NE, NH (Roch 2020), NJ, NM, NY, OH (Osborn and Drake 1915, as *Salda coriacea*), OR, PA, SD (Harris 1937, as *Salda coriacea*), TN, UT, WI.

Saldula comatula Parshley, 1922a

Material examined: **NORTH DAKOTA**: Ransom Co., 2.5 km SW McLeod, 12 July 1995, black light + mercury vapor [light], David A. Rider, NDSIRC, INHS Insect Collection 935090, 935091 [1 ♂, 1 ♀].

Distribution: Canada: AB, BC, SK; USA: AZ, CA, CO, ID, IL, KS, MT, ND, NE, NM, NV, SD, UT, WA, WY.

Saldula confluenta (Say, 1831a)

Material examined: **MAINE**: [Cumberland Co.], Naples, [no further data], INHS Insect Collection 810012 [1 adult].

Distribution: Canada: MB, ON, PE (Maw et al. 2000), QC; USA: CO, CT, IA, IL, IN, KS, ME, MI, MN, MT, NC, NH (Roch 2020), NJ, NY, OH, OK (Schaefer and Drew 1964), SC, SD, TN, TX, VA, WI.

Saldula opacula (Zetterstedt, 1838)

Material examined: **ILLINOIS**: [Carroll Co.], Savanna, at lantern on Mississippi River Station G 18532, 25 July 1892, [no collector], INHS Insect Collection 698723 [1 ♀]; [Jo Daviess Co.], Galena, 5 July 1917, [no collector], INHS Insect Collection 698722 [1 ♀]; Jo Daviess Co., Wolf Creek @ S Pleasant Hill Rd, 1.5 km S. Elizabeth, 5 August 1993, M. A. Harris, C. A. Taylor, H. E. Kitchel, M. J. Wetzel, det. A. Slater 1993, INHS Hemip. #0017, INHS Insect Collection 653751 [1 ♀]; Will Co., 5 mi SSE Naperville, ex. black light, 4 July 1973, T. G. Marsh & R. J. Bill-

ings, INHS Insect Collection 698738 [1 ♂]; “18537”, “EX. INHS ACCESSION LEDGER #18537 ~DRS. NOV. 2020 USA: ILLINOIS: [Carroll Co.], Savanna, at lantern and sugar on bluff, 27 July 1892, [Fred Morgan] McElfresh, [Shigetsura] Shiga, [S. A.] Forbes & [C. A.] Hart”, INHS Insect Collection 698725 [1 ♂]; **NORTH DAKOTA:** [Barnes Co.], Valley City, UV light trap, 8–9 July 1957, [no collector], det. Lee A. Jacobson 1969, NDSIRC, INHS Insect Collection 771667 [1 adult]; [Barnes Co.], 13 September 1946, R. L. Post, NDSIRC, INHS Insect Collection 935096 [1 ♂]; [Cass Co.], 17 March 1963, Robert Poole, NDSIRC, INHS Insect Collection 935095 [1 ♀]; [Ransom Co.], 2.5 km SW McLeod, 12 July 1995, black light + mercury vapor [light], David A. Rider, NDSIRC, INHS Insect Collection 935092 [1 ♀]; [Ransom Co.], Sheyenne National Grassland, Berg Allotment, [mercury vapor] light, 10 July 1995, C. Park, C. Locken & G. Fauske, NDSIRC, INHS Insect Collection 935093, 935094 [2 ♂♂].

Distribution: Canada: AB, BC, MB, NL, NS (Roch 2020), NT (Maw et al. 2000), ON (Maw et al. 2000), QC, SK, YT (Scudder 1997, Maw et al. 2000); USA: AK, CA, CO, FL, IA, IL, IN, MA, MD, ME, MI, MN, MS (Richmond 1962), MT, ND, NE, NJ, NV, NY, OR, PA, UT, WA, WI.

Saldula saltatoria (Linnaeus, 1758)

Material examined: **NORTH CAROLINA:** Swain Co., Great Smoky Mountains National Park, spring/flowing stream below Ferguson Cabin, 17S 312237 3939523 (NAD83), 3 August 2008, PPT08-088, P. P. Tinerella & S. J. Taylor, *Micracanthia* cf. *pumpila* det. P. P. Tinerella 2008, *Saldula saltatoria* (Linnaeus) det. D. R. Swanson 2020, INHS Insect Collection 507296 [1 ♀].

Distribution: Canada: AB, BC, MB, NB (Maw et al. 2000), NL (Maw et al. 2000), NT, ON, QC, SK, YT (Scudder 1997, Maw et al. 2000); USA: AK, CA, CO, CT, DC, IA, IL, IN, MA, ME, MI, MN, NC, NE, NH (Roch 2020), NJ, NV, NY, OR, RI, TN, VA, WA, WI.

Infraorder CIMICOMORPHA

Family ANTHOCORIDAE

Cardiastethus borealis Kelton, 1977

Material examined: **ILLINOIS:** Alexander Co., Pleas. Val. Plant., Trap # [blank], Ht. [blank], 27 June 1980, B. C. Weber, det. T. M. Lewis 2021, INHS Insect Collection 747550 [1 adult].

Distribution: Canada: BC, MB, NS, ON (Maw et al. 2000), SK (Kelton 1978, Maw et al. 2000); USA: IL, MI (Swanson 2016), OR (Lattin & Stanton 1992, Lattin 1999, ONHP 2001, ONHC 2007, OBIC 2016).

Dufouriellus ater (Dufour, 1833)

Material examined: **ILLINOIS:** [McHenry/Kane Co.], Algonquin, 20 November 1908, Nason, “207”, det. T. M. Lewis 2021, INHS Insect Collection 684951 [1 ♂].

Distribution: Canada: BC, NS (Scudder 2008), ON; USA: CA, GA (Arbogast 1984), HI (Lattin 2005, 2007), ID, IL, KY, MA (Arbogast 1984), MD (Arbogast 1984), MI (Arbogast 1984, Swanson 2016), NC, NY, OR (Arbogast 1984, Lattin 2004), SC (Arbogast 1984), TX (Arbogast 1984).

Orius diespeter Herring, 1966

Material examined: **ILLINOIS:** [Winnebago Co.], Rockford, 2 September 1930, T. H. Frison, det. T. M. Lewis 2020, INHS Insect Collection 743817 [1 ♀].

Notes: Updated distribution from Swanson (2019).

Distribution: Canada: AB, BC, NB, NS, ON, QC, YT; USA: AK, CT, CO, IA, ID, IL, KS, MA, ME, MI, MN, MT, ND, NE, NH, NY, OR, PA, SD, UT, VT, WA, WY.

Xylocoris sordidus (Reuter, 1871)

Material examined: **ILLINOIS:** [Vermilion Co.], Danville, in stored grain, 11 February 1948, W. Schoenherr, det. Sailer 1948, INHS Insect Collection 684695–687698 [3 ♂♂, 1 ♀].

Distribution: Canada: ON (Gibson 1915, 1919), QC (Moore 1944); USA: AR (Chordas, Robison et al. 2005), AZ, CA, FL, GA, IA (Hendrickson 1930), IL, KS, MA, MD, NC (Brimley 1938), NJ, NM, NY, PA, SC, SD (Harris 1943), TN, TX.

Family LASIOCHILIDAE

Lasiochilus pallidulus Reuter, 1871

Material examined: **TENNESSEE:** Blount Co., Great Smoky Mountains National Park, Cades Cove Campground (spot C-62), 17 S 248625 3943164 (NAD83), fluorescent lantern/white light, 4 August 2008, P. P. Tinerella & S. J. Taylor, PPT08-097, INHS Insect Collection 810015–810024 [10 adults].

Distribution: USA: FL, GA (Joseph and Braman 2009), SC, TN, TX.

Family MIRIDAE

Subfamily ISOMETOPINAE

Myiomma cixiiforme (Uhler, 1891)

Material examined: **ILLINOIS:** [Pulaski Co.], Karnak, 23 June 1932, Ross, Dozier, Park, det. H. H. Knight, INHS Insect Collection 624957 [1 ♀].

Distribution: Canada: ON, QC; USA: DC, DE, FL, IL, KY (Henry et al. 2005), MD, MO (Blinn and Yonke 1985), OK (Smith et al. 1996), PA, TX, VA, WV.

Subfamily MIRINAE

Adelphocoris rapidus (Say, 1831a)

Material examined: **MONTANA**: [Lake Co.], Flathead River, 25 August 1891, S. A. Forbes, “27105”, “EX. INHS ACCESSION LEDGER #27105 ~DRS. OCT. 2020 USA: MONTANA: [Lake Co.]: below Lake along Flathead River: 25 Aug. 1891: Stephen A. Forbes”, *Adelphocoris superbus* det. Knight 1930, INHS Insect Collection 617068–617072 [2 ♂♂, 3 ♀♀].

Notes: *Adelphocoris superbus* (Uhler, 1875) was synonymized with *A. rapidus* by Schwartz and Scudder (2003); thus, the distribution below represents combined records of both taxa.

Distribution: Canada: AB, BC, MB, NB (Maw et al. 2000), NS (Parshley 1923a, Maw et al. 2000), ON, PE (Maw et al. 2000), QC, SK; USA: AK (Scudder and Sikes 2014), AL (Anonymous 1964a), AR, AZ, CA, CO, CT, DC, DE, FL, GA, IA, ID, IL, IN, KS, KY, LA, MA, MD (Knight and McAtee 1929, Anonymous 1964a, Brown and Bahr 2008), ME, MI (Hussey 1922a), MN (Lugger 1900; Hughes 1943; Anonymous 1964b, c), MO, MS, MT, NC, ND, NE, NH, NJ, NM, NV, NY, OH, OK (Carpenter 1937, Smith 1940, Brett et al. 1946), PA, RI, SD, TN, TX, UT, VA, VT, WA, WI, WV, WY.

Lygidea rubecula (Uhler, 1895)

Material examined: **INDIANA**: [Pike Co.], Rogers, at light, 2 June 1936, Mohr & Burks, det. Knight, INHS Insect Collection 619559, 619560 [1 ♂, 1 ♀].

Notes: Minor but apparent sexual dimorphism indicated by two specimens collected syntopically and determined by Knight: the rostrum of the male does not reach beyond the apex of mesocoxa, whereas the rostrum is slightly longer in the female, reaching beyond the apex of the mesocoxae.

Distribution: Canada: MB, ON; USA: CA, CO, IL, IN, ME, MI, NC, ND (Hussey 1922b), NH, NY, SD (Parshley 1922b), VT.

Neolygus belfragii (Reuter, 1876)

Material examined: **MICHIGAN**: “15375”, “EX. INHS ACCESSION LEDGER #15375 ~DRS. OCT. 2020 USA: MICHIGAN: [Houghton Co.]: Houghton: 14 Aug. 1889: Stephen A. Forbes”, det. H. H. Knight, INHS Insect Collection 619584 [1 ♀].

Distribution: Canada: MB, NB, NL (Maw et al. 2000), NS, ON, PE, QC; USA:

CT, GA, IL, KY (Henry et al. 2005), MA, ME, MI, MN, NC, NH, NY, OH (Adkins 1917), PA, RI, TN, VT, WI, WV.

Oncerometopus nasutus Knight, 1928

Material examined: **TEXAS**: [Cameron Co.], Brownsville, sweepings, so. Texas garden, 27 June 1908, [no collector], det. Knight 1930, INHS Insect Collection 611205–210 [6 ♀♀].

Distribution: USA: CO, TX.

Opistheurista clandestina (Van Duzee, 1915)

Material examined: **MISSISSIPPI**: Adams Co., near Cranfield, 330 ft., 27 July 1970, M. Kogan & E. Armbrust, 1009/27, INTSOY, det. G. L. Godfrey, INHS Insect Collection 611191–3 [2 ♂♂, 1 ♀]; Jefferson Co., nr. Fayette, 31 August 1972, M. Kogan, 573, INTSOY, INHS Insect Collection 611184 [1 ♀]; Pearl River Co., 11 August 1971, H. N. Pitre, 386, 386/16, INTSOY, INHS Insect Collection 611189 [1 ♂].

Notes: Johnston (1936) reported this species from Mississippi in an unpublished thesis.

Distribution: Canada: MB, ON; USA: AR (Tugwell et al. 1973), FL, IL, IN, LA, MN, MO, MS, ND (Knight 1927a, 1941), NY, OH, OK, TX (Johnston 1929, Knight 1941), WI, WV (Henry 2010).

Phytocoris eximius Reuter, 1876

Material examined: **TENNESSEE**: Blount Co., Great Smoky Mountains National Park, Cades Cove Campground (spot C-62), 17 S 248625 3943164 (NAD83), fluorescent lantern/white light, 4 August 2008, P. P. Tinerella & S. J. Taylor, PPT08-097, SJT08-177, GRSM08 PPTC EtOH Cat 84, INHS Insect Collection 810014 [1 ♀].

Distribution: Canada: NS (Parshley 1923a), ON, QC; USA: AL (Knight 1941, as *Phytocoris penipecten*), AR (Chordas, Robison et al. 2005), AZ (Uhler 1893, Snow 1907), CA (Reuter 1909; Van Duzee 1914, 1916, 1917b), CO, CT, DC, FL, GA, IA (Osborn 1898), IL, IN, KS (Crevecoeur 1905), KY (Henry et al. 2005), LA (Knight 1941, as *Phytocoris penipecten*; Snodgrass et al. 1984), MA, MD, ME, MI (Hussey 1922a), MO, MS (Snodgrass et al. 1984), NC, NH (Parshley 1917), NJ, NY, OH (Watson 1928), PA, RI (Parshley 1917), SD (Parshley 1922b), TN, TX, UT (Uhler 1893), VA (Uhler 1893), WI (Akingbohungebe 1974, as *Phytocoris penipecten*).

Prepops insitivus (Say, 1831a)

Material examined: **TENNESSEE**: Campbell Co., 2 mi. W. Caryville, 28 May

1977, D. W. Webb, INHS Insect Collection 809947 [1 ♂].

Distribution: Canada: ON, QC (Gibson 1916); USA: AR (Skvarla et al. 2016), CO, CT, DC (Knight and McAtee 1929), FL, GA, IA, IL, IN, KY (Henry et al. 2005), MA, MD, ME, MO, NC, NH, NJ, NM (Cockerell 1903), NY, OH (Osborn and Drake 1915), OK (Smith et al. 1996), PA, RI, TN, VA (Knight and McAtee 1929), VT, WV.

Prepops rubrovittatus (Stål, 1862)

Material examined: **MINNESOTA**: [Saint Louis Co.], Eaglesnest, 4 August 1958, W. V. Balduf, 164, det. P. D. Ashlock 1959, INHS Insect Collection 604059 [1 ♂].

Distribution: Canada: NB (Maw et al. 2000), NS, ON (Maw et al. 2000), PE (Maw et al. 2000), QC (Maw et al. 2000); USA: AR (Chordas, Robison et al. 2005, 2011), CO, DC (Knight and McAtee 1929), FL, GA, IN, IL (Knight 1941), LA, MA, ME, MN, MO, MS, NC (Brimley 1938), NJ, NM, NY, TN (Howden and Crossley 1961), TX, WI.

Taylorilygus apicalis (Fieber, 1861)

Material examined: **MINNESOTA**: [Saint Louis Co.], Eaglesnest, 24 September 1959, W. V. Balduf, *Liocoris apicalis* Fieb. det. R. C. Froeschner 1961, INHS Insect Collection 638567, 6385688 [2 ♂♂].

Distribution: Canada: NB (Schwartz and Scudder 2000); ON (Schwartz and Scudder 2000); USA: AL, AR, AZ (Goeden 1971), CA, CT, DC, FL, GA, IL (Knight 1941), IN (Wheeler and Henry 1992), KS (Wheeler and Henry 1992), KY (Henry et al. 2005), LA, MA, MD, ME, MN, MO, MS, NC, NM (Goeden 1971), NY (Wheeler and Henry 1992), OK, PA (Wheeler and Henry 1992), SC (Wheeler and Henry 1992), TN (Wheeler and Henry 1992), TX, VA (Wheeler and Henry 1992).

Teratocoris discolor Uhler, 1887a

Material examined: **PENNSYLVANIA**: [Union Co.], Lewisburg, 30 May 1909, [no collector], 129a, INHS Insect Collection 810013 [1 adult, apex of abdomen missing].

Distribution: Canada: AB, BC, MB, ON, QC, SK; USA: CO, IA, IL, IN, MA, MD (Hoffman 1999), MI, MO, NV (Knight 1968, Thomas and Werner 1981), NY, OH, PA, SD, UT, VA (Hoffman 1999), WI.

Trigonotylus caelestialium (Kirkaldy, 1902)

Material examined: **MASSACHUSETTS**: Barnstable Co., Hatchville, Francis Crane WMA, 41.6348°N 70.5607°W, 120 ft., 14 August 2014, D. R. Swanson, #98 [1 ♀] (DRS); [Middlesex Co.], Cambridge, Harvard Lawn, 24 July 1951, H. H. Ross, *Trigonot-*

ylus ruficornis (Geof.) det. J. Maldonado C. 1979, *Trigonotylus caelestialium* (Kirkaldy) det. D. R. Swanson 2020, INHS Insect Collection 752517 [1 adult, abdomen missing]; **WISCONSIN**: Oneida Co., Hazelhurst, 20 August 1953, T. E. Moore, *Trigonotylus ruficornis* (Geof.) det. J. Maldonado C. 1978, det. D. R. Swanson 2020, INHS Insect Collection 752523–752525 [2 ♀♀, 1 adult with abdomen missing].

Notes: Specimens identified as *Trigonotylus americanus* Carvalho in Carvalho and Wagner, 1957 and *Trigonotylus ruficornis* (Geoffroy, 1785) in the INHS are referred to this species.

Distribution: Canada: AB, BC (Maw et al. 2000), MB, NB, NL (Maw et al. 2000), NS, ON, PE, QC, SK; USA: AK, AR, CT (Wheeler and Henry 1992), GA, IA, IL, KY, LA, MA, MD (Wheeler and Henry 1992), MI, MN, MO (Blinn and Yonke 1985), MS, NC, NH, NY, OH, PA, SC (Kelton 1971), SD, TN, WI, WV, WY.

Subfamily ORTHOTYLINAE

Blepharidopterus diaphanus (Kirschbaum, 1856)

Material examined: **MICHIGAN**: [Van Buren Co.], S. Haven, at light, 15 July 1914, [no collector], *Orthotylus ulmi* det. H. H. Knight AUTOTYPE, INHS Insect Collection 620060 [1 ♂].

Distribution: Canada: AB, BC, MB, ON, NS, QC, SK; USA: CA, CO, GA, IA, KS (Tucker 1907a, b), MI, MN, MO, NH, NY, TX.

Ceratocapsus fuscinus Knight, 1923

Material examined: **MICHIGAN**: [Berrien Co.], Berrien Springs, St. Joseph R., 16 July 1914, [no collector], *Ceratocapsus fuscinus* det. Knight 1930, INHS Insect Collection 633298, 633350 [1 ♂, 1 ♀].

Distribution: Canada: ON, QC; USA: DC, FL, GA, IA (Knight 1941), IL, IN, KY (Henry et al. 2005), LA, MD, MI, MN, MO, MS, NC, NY, OH, PA, WV.

Ceratocapsus fuscusignatus Knight, 1927b

Material examined: **OKLAHOMA**: [Oklahoma Co.], Oklahoma City, ex. light globe, "Summer 1935", [no collector], det. H. H. Knight, INHS Insect Collection 633387 [1 ♂].

Notes: Johnston (1936) recorded this species from Mississippi in an unpublished thesis.

Distribution: USA: AL (Knight 1927b), AR, AZ, CA, FL, IA, KS (Schwitzgebel and Wilbur 1942), NM, OK, TX.

Inacora stalii Reuter, 1876

Material examined: **TENNESSEE**: [Knox Co.], Knoxville, 8 June 1890, H. E. Summers, det. Knight 1930, INHS Insect Collection 605251 [1 ♂].

Distribution: Canada: AB, MB, ON, QC (Maw et al. 2000), SK; USA: AR, AZ, CO, DC, DE, GA, IA, IL, IN, KS, KY (Henry et al. 2005), LA (Snodgrass et al. 1984), MD (Knight and McAtee 1929), MI, MO, MS, MT, NC, ND (Hussey 1922b), NJ, NM, NY, OH, PA, SD, TN, TX, VA, WI, WV, WY.

Labops hesperius Uhler, 1872

Material examined: **MINNESOTA**: [Saint Louis Co.], Eaglesnest, 23 June 1957, W. V. Balduf, "74", det. P. D. Ashlock 1959, INHS Insect Collection 609610 [1 ♀].

Distribution: Canada: AB, BC, MB (Uhler 1872, Bird 1930, Kelton 1980b, Maw et al. 2000), NT (Uhler 1872, Maw et al. 2000), ON, QC, SK YT (Slater 1954, Scudder 1997, Maw et al. 2000); USA: AZ, CA, CO, ID, MA (Parshley 1917), ME (Parshley 1917, Blatchley 1926), MN, MT, ND, NE, NH (Osborn 1893, Slosson 1895, Parshley 1917), NM, NV (Thomas and Werner 1981), NY (MacGillivray and Houghton 1903, Blatchley 1926), OR, SD, UT, VT (Parshley 1917), WA, WY.

Melanotrichus flavosparsus (Sahlberg, 1842)

Material examined: **MINNESOTA**: [Otter Tail Co.], Fergus Falls, 21 July 1911, [no collector], det. Knight 1930, INHS Insect Collection 609044 [1 ♀]; **WINONA Co.**, 5 mi. N. Winona, 660 ft., 18 August 1970, G. Godfrey & J. Ameel, 1030/06, INTSOY, INHS Insect Collection 608402 [1 ♀]; **NEBRASKA**: **Madison Co.**, 3 mi. N. Madison, 1700 ft., 21 August 1970, G. Godfrey & J. Ameel, 1037/04, INTSOY, INHS Insect Collection 608403 [1 ♂]; **WASHINGTON**: [Whatcom Co.], Mt. Baker, Picture Lake, 21 July 1936, H. H. Ross, det. Knight 1941, INHS Insect Collection 609094 [1 ♂].

Notes: Henry (1991) indicated that "[e]arly records of *M[elanotrichus] coagulatus* from the East are misidentifications of *M. flavosparsus*." Slosson's (1895) record from New Hampshire is included as a result. This species is often treated under the genus *Orthotylus* Fieber, 1858.

Distribution: Canada: AB, BC, MB, NB (Barnes et al. 2000, Maw et al. 2000), NS, NT (Barnes et al. 2000, Maw et al. 2000), ON, PE (Barnes et al. 2000, Maw et al. 2000), QC, SK; USA: AR (Wheeler and Henry 1992), CA, CT, DC, FL, GA, IA (Osborn 1892, misidentified as *Macrocoleus coagulatus*; Carvalho 1947), IL, IN, KS, KY (Henry et al. 2005), MA (Parshley 1917), MD (Brown and Bahr 2008),

ME, MI, MN, MO, NC (Blatchley 1926, Brimley 1938), ND (Hussey 1922b), NE, NH (Slosson 1895, as *Macrocoleus coagulatus*), NJ, NY, OH, PA, RI, SD (Parshley 1922b), UT (Knowlton 1932), VA, WA, WI, WV.

Microtechnites bractatus (Say, 1831a)

Material examined: **SOUTH DAKOTA**: **Union Co.**, 2 mi. W. Elk Point, 1225 ft., 20 August 1970, G. Godfrey & J. Ameel, "1036", INTSOY, INHS Insect Collection 599927, 599928 [2 ♀♀].

Distribution: Canada: NB (Maw et al. 2000), ON, QC; USA: AL (Beyer 1921), AR (Beyer 1921), CO, CT, DC (Beyer 1921), DE (Anonymous 1959a, b, c, d, e, f, g, h), FL, GA, HA (Henry 1983), IA, IL (Beyer 1921, Knight 1941), IN, KS, KY (Henry et al. 2005), LA (Snodgrass et al. 1984), MA (Parshley 1917, as *Halticus citri*), MD, ME (Parshley 1914, 1917, as *Halticus citri*), MI, MN (Lugger 1900), MO, MS (Snodgrass et al. 1984), NC, NJ, NY, OH, OK (Beyer 1921), PA, SC, SD, TN (Beyer 1921), UT, VA (Beyer 1921, Cagle and Jackson 1947), WV, WI.

Orthotylus pacificus Van Duzee in Parshley, 1919

Material examined: **MONTANA**: [Madison Co.], Harrison, 8 July 1936[?], H. H. Ross, det. H. H. Knight, INHS Insect Collection 608929 [1 ♂].

Distribution: Canada: AB, BC; USA: MT, WA (Van Duzee 1921).

Sericophanes heidemanni Poppius, 1914

Material examined: **LOUISIANA**: [Caddo Par.], Shreveport, 16 July 1942, H. H. Ross, INHS Insect Collection 809948 [1 ♂].

Distribution: Canada: AB, BC (Maw et al. 2000), NS (Scudder 2012), ON, QC, SK (Kelton 1980b, Maw et al. 2000); USA: CA (Van Duzee 1921), CO (Kumar et al. 1976, Polhemus 1994), CT, DE, FL, GA, IA, IL, IN, KY (Henry et al. 2005), LA, MA, MD, MI, MN, MO (Blinn and Yonke 1985), MT, NC, NY, OH, PA, SD, UT, WA, WV, WY.

Subfamily PHYLINAE

Lopus decolor (Fallén, 1807)

Material examined: **ILLINOIS**: **Cook Co.**, Calumet Van Vlessingen Prairie, N 41° 42.781' W 87° 34.498', general collection, 23 July 2003, D. Voegtlin, DV03-007, det. INHS Insect Collection 809850 [1 ♂].

Distribution: Canada: BC, NB (Barnes et al. 2000, Maw et al. 2000), NL (Barnes et al. 2000, Maw et al. 2000), NS (Parshley 1923a, Wheeler and Henry 1992, Maw et al. 2000), ON, PE (Barnes et al. 2000, Maw et al. 2000), QC; USA: CA, CO, CT, DC, IL, MA,

MD, ME, MI (Wheeler and Henry 1992), MO (Blinn and Yonke 1985), NH (Parshley 1917), NJ, NY, OR (Wheeler and Henry 1992), PA (Wheeler and Henry 1977), RI (Parshley 1917), VA, VT (Parshley 1917), WV.

Pilophorus crassipes Heidemann, 1892

Material examined: **ARKANSAS**: Ozark National Forest, MV light trap, 16 August 2001, V. R. Block, INHS Insect Collection 809842 [1 ♂].

Distribution: Canada: AB, MB (Maw et al. 2000), ON (Schuh and Schwartz 1988), QC (Moore 1907, Maw et al. 2000); USA: AL (Knight 1973, as *Pilophorus vanduzeei*; Schuh and Schwartz 1988), AR, CO (Schuh and Schwartz 1988), CT (Schuh and Schwartz 1988), DC, FL (Frost 1964, as *Pilophorus vanduzeei*), GA (Henry and Smith 1979, Schuh and Schwartz 1988), IA (Knight 1973, as *Pilophorus banksianae* and *Pilophorus vanduzeei*; Schuh and Schwartz 1988), IL, IN, KY (Henry et al. 2005), LA, MA, MD, MI (Schuh and Schwartz 1988), MN, MS (Richmond 1962, as *Pilophorus vanduzeei*; Schuh and Schwartz 1988), NC (Brimley 1938, McPherson et al. 1983, Schuh and Schwartz 1988), NE (Schuh and Schwartz 1988), NH (Knight 1923, Schuh and Schwartz 1988), NJ, NY, OH, OK (Chordas and McAllister 2019), PA, SC (Schuh and Schwartz 1988), TN (Schuh and Schwartz 1988), VA (Schuh and Schwartz 1988), WI (Schuh and Schwartz 1988), WV.

Pilophorus walshii Uhler, 1887b

Material examined: **MICHIGAN**: [Berrien Co.], Berrien Springs, St. Joseph R., 16 July 1914, [no collector], det. H. H. Knight, INHS Insect Collection 632228 [1 ♂].

Distribution: Canada: ON (Schuh and Schwartz 1988); USA: CO, DC, GA, IA, IL, IN, KS (Schuh and Schwartz 1988), KY (Henry et al. 2005), LA (Schuh and Schwartz 1988), MD, MI, MO, NC, NE, NJ, NY, OH, PA, SC (Schuh and Schwartz 1988), TN (Schuh and Schwartz 1988), VA, WI, WV.

Rhinocapsus vanduzeei Uhler, 1890

Material examined: **MINNESOTA**: [Saint Louis Co.], Eaglesnest, 16 July 1959, W. V. Balduf, det. R. C. Froeschner 1961, INHS Insect Collection 610797 [1 ♀].

Distribution: Canada: MB, NB (Maw et al. 2000), NS (Maw et al. 2000), ON, PE (Maw et al. 2000), QC; USA: CT, DC (Knight and McAtee 1929), FL, GA, MA, MD, ME, MI, MN, MO, NC, NH (Parshley 1917), NY, PA, SC (Wheeler 1989), VA, VT (Parshley 1917), WV.

Family NABIDAE

Hoplistoscelis sericans (Reuter, 1872)

Material examined: **NORTH CAROLINA**: Montgomery Co., 19 July 1972, T. N. Hunt, INTSOY, INHS Insect Collection 644476 [1 ♀]; [Chatham, Durham, or Orange Co.], Chapel Hill, sweeping, 24 September 1977, K. Corrette, INHS Insect Collection 754424 [1 ♂].

Distribution: USA: AL, AR, FL, GA, IL, MD, MO, MS, NC, TN, TX.

Nabis alternatus Parshley, 1922b

Material examined: **ILLINOIS**: Alexander Co., Olive Branch, 17 July 1969, Armbrust & Kogan, det. R. C. Froeschner 1972, INTSOY, INHS Insect Collection 644304, 644305 [2 ♂♂]; Champaign Co., Champaign, on artichoke, 9 August 1937, Mohr & Burke, det. R. C. Froeschner 1972, INHS Insect Collection 644111 [1 ♂]; Champaign Co., Champaign-Urbana, 16 August 1972, M. Kogan & K. McDowell, 564, det. R. C. Froeschner 1972, INTSOY, INHS Insect Collection 644299 [1 ♂]; Fayette Co., 4 mi. ENE Wrights Corner, 22 July 1971, Craig Bentley, 322, det. R. C. Froeschner 1972, INTSOY, INHS Insect Collection 644273 [1 ♂]; Jackson Co., nr. Murphysboro, 22 July 1971, Craig Bentley, 323, det. R. C. Froeschner 1972, INTSOY, INHS Insect Collection 644266 [1 ♂]; Jackson Co., nr. Murphysboro, 19 August 1971, M. Kogan, 346, det. R. C. Froeschner 1972, INTSOY, INHS Insect Collection 644267 [1 ♀]; [u>Jackson Co., 420 ft., 25 July 1970, M. Kogan & E. Armbrust, 1001/04, det. R. C. Froeschner 1972, INTSOY, INHS Insect Collection 644312 [1 ♂]; Macoupin Co., 0.3 mi. N. Girard, 2 August 1971, Craig Bentley, 339, det. R. C. Froeschner 1972, INTSOY, INHS Insect Collection 644263, 644264 [1 ♂, 1 ♀]; Monroe Co., 0.9 mi. E. Waterloo, 17 June 1971, Tim Cooley, 267, det. R. C. Froeschner 1972, INTSOY, INHS Insect Collection 644275 [1 ♂]; Union Co., 3 mi. S. Ware, 355 ft., 25 July 1970, M. Kogan & E. Armbrust, 1002/03, det. R. C. Froeschner 1972, INTSOY, INHS Insect Collection 644315, 644317 [2 ♂♂]; **NORTH CAROLINA**: Montgomery Co., 10 October 1972, T. N. Hunt, 670, det. R. C. Froeschner 1972, INHS Insect Collection 644363 [1 ♂]; Montgomery Co., 24 August 1972, T. N. Hunt, det. R. C. Froeschner 1972, INHS Insect Collection 644364, 644365 [2 ♂♂]; **SOUTH CAROLINA**: Barnwell Co., near Blackville, sweeping, 20 August 1970, S. G. Turnipseed, det. R. C. Froeschner 1972, INHS Insect Collection 644352–644357 [4 ♂♂, 2 ♀♀]; Edgefield Co., near Trenton, 530 ft., 30 July 1970, M. Kogan & E. Armbrust, 1017/08, det. R. C. Froeschner 1972, INHS Insect Collection 644328 [1 ♂]; Saluda Co.,

near Ward, 500 ft., 30 July 1970, M. Kogan & E. Armbrust, 1018/10, det. R. C. Froeschner 1972, INHS Insect Collection 644327 [1 ♂].

Notes: Identifications of *N. alternatus* herein are based in great part on the presence of a small paramere as described by Harris (1928), i.e., diameter of blade being distinctly shorter than dorsal width of eye.

Distribution: Canada: AB, BC; USA: AR, AZ, CA, CO, FL, GA, IA, ID, IL, IN, KS, MO, MS, MT, NC, ND, NE, NM, NY, NV, OK (Stoner et al. 1962, Drew and Schaefer 1963a), OR, SC, SD, TN (Howden and Crossley 1961), TX, UT, WA, WY.

Nabis nigrovittatus nearcticus (Kerzhner, 1981)

Material examined: **MINNESOTA:** [Saint Louis Co.], Eagles Nest, 16 August 1957, W. V. Balduf, “29”, det. P. D. Ashlock 1959, INHS Insect Collection 644205 [1 ♀]; *idem*, 12 September 1958, det. A. Asquith 1988, INHS Insect Collection 644206, 809858 [2 ♀♀].

Notes: Updated distribution from Swanson (2019).

Distribution: Canada: AB, BC, MB, NB, NL, NS, NT, ON, PE, QC, SK, YT; USA: USA: AK, CO, ID, MN, NY, WY.

Family REDUVIIDAE

Lophoscutus prehensilis (Fabricius, 1803)

Material examined: **CALIFORNIA:** [Los Angeles Co.], Los Angeles, 205 ft., 25 March 1879, Andreas Bolter Collection, INHS Insect Collection 715569 [1 adult, abdomen missing].

Notes: Identification is based on Kormilev’s (1987) key. During this study, it was noticed that another species, *Lophoscutus uhleri* (Handlirsch, 1898), was erroneously characterized in Kormilev’s (1987) key as having “granulations of head and pronotum not setigerous”. However, specimens in INHS examined by me actually have setigerous granulations, with the setae surmounting the granulations being minute and incumbent. Thus, *L. uhleri* will key to couplet #5 with *michelbacherilschaffneri* in Kormilev’s (1987) key.

Distribution: USA: AL, AR, CA, FL, GA, KS, KY, MO, MS, NC, NM, OK, TN, TX, VA (Hoffman 1999).

Macrocephalus cimicoides Swederus, 1787

Material examined: **ARIZONA:** [Yuma Co.], Yuma, 150 ft., 7 April 1879, Andreas Bolter Collection, INHS Insect Collection 715549 [1 ♀].

Notes: Identification is based on Kormilev’s (1990) key. The record of this species from Canada (as listed in Henry and Froeschner 1988) is considered dubious and requires confirmation.

Distribution: USA: AZ, CA, “Carolina”, FL, GA (Van Duzee 1917a), NC (Brimley 1938), TN (Lambdin et al. 2003), TX.

Rhynocoris ventralis (Say, 1831a)

Material examined: **NEVADA:** Elko Co., S. Jarbidge, 3 August 2001, V. R. Block, INHS Insect Collection 809847 [1 ♀].

Notes: This specimen corresponds to the subspecies *Rhynocoris ventralis americanus* (Bergroth, 1897). Updated distribution from Swanson (2011a). The record from Kansas was based on a tentative identification of nymphs.

Distribution: Canada: AB, BC, MB, ON (Paiero et al. 2003), SK; USA: AZ, CA, CO, ID, IL, IN, KS(?) (Kurczewski 1967), MA, ME, MI, MN, MO, MT, ND, NE, NH, NM, NV, OK, OR, SD (Harris 1937, Clem et al. 2019), TX, UT, WA, WY.

Family TINGIDAE

Acalypta duryi Drake, 1930

Material examined: **KENTUCKY:** Breathitt Co., Wilhurst, beech debris, 11 March 1964, L. J. Stannard, INHS Insect Collection 653790 [3 ♂♂].

Distribution: USA: GA, KY, NC, OH, TN.

Atheas insignis Heidemann, 1909

Material examined: **ARKANSAS:** Logan Co., Mount Magazine, 15–16 July 1949 Stannard & Sand[erson], INHS Insect Collection 809978 [1 adult]; **ILLINOIS:** [Union Co.], LaRue, 23 August 1944, M.W. Sanderson & Leighton, INHS Insect Collection 809979–810009 [31 adults].

Distribution: USA: AR, DC, IL, FL (Halbert 2014), MD, MS, VA.

Corythucha bellula Gibson, 1918

Material examined: **ILLINOIS:** “14981”, “EX. INHS ACCESSION LEDGER #14981 ~DRS, OCT. 2020 USA: ILLINOIS: [Champaign Co.]: Urbana: sweeping in forest: 15 May 1889: John Marten”, *Corythucha pergandei* Heid. det. Drake 1928, *Corythucha bellula* det. D. R. Swanson 2020, INHS Insect Collection 665058 [1 ♂].

Notes: This specimen possesses a high, arched median pronotal carina, in direct contrast to the description by Gibson (1918) of “Median carina low, not arched”. However, the specimen strongly matches other specimens examined by me from other

states and taken on *Crataegus* sp. or *Alnus incana*, both hosts mentioned by Gibson in the original description. Additionally, the specimen agrees with the description of *C. bellula* in other diagnostic characters. Thus, the evidence suggests that the shape of the median pronotal carina varies intraspecifically in *C. bellula*, as it does in other species of *Corythucha*, although the relative height compared to the height of the pronotal hood remains more or less constant (Miller, pers. comm., Nov. 2020). This record appears to represent the southwesternmost record of the species.

Distribution: Canada: MB (Maw et al. 2000), NB (Maw et al. 2000), ON (Maw et al. 2000); USA: IL, ME, NH, NY, OH, VT.

Corythucha bulbosa Osborn and Drake, 1916

Material examined: **KANSAS**: Douglas Co., 3.2 km. N. Baldwin, 23 August 1989, Douglas Yanega, INHS Insect Collection 754770 [1 adult].

Distribution: USA: DC, IL, IN, KS, MD, MO, NJ, OH, PA, VA.

Corythucha cydoniae (Fitch, 1861)

Material examined: **ILLINOIS**: Champaign Co., Champaign, UIUC campus, Evers Bldg., 40.0919°N 88.2414°W, 760 ft., 19 Sept. 2014, D. R. Swanson, #113 [6 adults] (DRS); *idem*, 4 Sept. 2015, D. R. Swanson, #53 [8 adults] (DRS); [Jackson Co.], Fountain Bluff, sweepings, 20 July 1909, [no collector], det. Drake 1928, INHS Insect Collection 663109 [1 adult]; [Marion Co.], Salem, 22 September 1948, Ross & Stannard, INHS Insect Collection 809974 [1 ♂]; [Piatt Co.], White Heath, 3 June 1917 [additional date: 11 June 1916], [no collector], det. Drake 1928, INHS Insect Collection 663110–663114, 663117–663118 [7 adults]; Pope Co., 3.64 air mi. WNW. Eddyville, Bell Smith Spr., 37.5187°N 88.6562°W, 560 ft., 14 Sept. 2013, D. R. Swanson, #91 [1 adult] (DRS); [Union Co.], Dongola, on *Crataegus*, 10 May 1917 [additional dates: 9, 12, 13 May 1916, 22 August 1916], [no collector], det. Drake 1928, INHS Insect Collection 663070–663103 [34 adults]; [Union Co.], Alto Pass, 8 May 1917, [no collector], det. Drake 1928, INHS Insect Collection 663148 [1 adult]; [Vermilion Co.], Muncie, Stony Cr., 5 July 1914, [no collector], det. Drake 1928, INHS Insect Collection 663115 [1 adult]; [Washington Co.], Dubois [sic], 8 August 1917 [additional dates: 15 May 1916; 22, 23, 25 May 1917, 9 August 1917], [no collector], det. Drake 1928, INHS Insect Collection 663120–663147 [28 adults].

Distribution: Canada: AB (Maw et al. 2000), BC (Maw et al. 2000), MB, ON, SK (Maw et al. 2000); USA: AL, AR, CA, CO, CT, DC, DE, FL, GA, IA, ID, IL, IN, MA,

MD, ME, MI, MO, MS, NC, ND, NE, NJ, NY, OH, OK, OR, PA, RI, SC, SD, TN (Lambdin et al. 2003), TX, UT, VA, VT, WA, WI, WV.

Corythucha juglandis (Fitch, 1856)

Material examined: **NEW MEXICO**: Otero Co., 7.5 mi. S Ruidoso, 3 June 1980, S. L. Heydon, INHS Insect Collection 752137–752142 [6 adults].

Distribution: Canada: BC, QC (Moore 1907, 1944; Maw et al. 2000); USA: CT, GA, IA, IL, IN, KS, MA, MD, ME, MN (Katovich and Ostry 1998), MO (Sheeley and Yonke 1977), MS, NC, NH, NJ, NM, NY, OH, RI, SC, TN, TX, VA, VT, WI, WV (Torres-Miller 1989).

Corythucha pallipes Parshley, 1918

Material examined: **NORTH CAROLINA**: [Cleveland Co.], Lawndale, on *Vitis rotundifolia* var. Frye, 12 May 1978, K. Corrette, INHS Insect Collection 752383 [1 adult].

Distribution: Canada: MB, NB, NL, ON, QC; USA: CT, MA, ME, MI, NC, NH, NJ, NY, OR, VT, WA, WI.

Gargaphia angulata Heidemann, 1899

Material examined: **IOWA**: O'Brien Co., nr. Sutherland, 30 Aug. 1972, L. P. Pedigo & J. D. Stone, "591", INTSOY, det. Froeschner 1975, INHS Insect Collection 646162 [1 adult]; **ILLINOIS**: [St. Clair Co.], Cahokia, on potato, 10 May 1914, [no collector], det. Drake 1928, INHS Insect Collection 646161 [1 ♂]; [Washington Co.], Du Bois, on *Ceanothus*, 10 August 1917 [additional dates: 21 May 1917, 8 August 1917, 9 August 1917], [no collector], det. Drake 1928, INHS Insect Collection 646134–646160 [26 adults, 4 nymphs].

Distribution: Canada: ON (Maw et al. 2000); USA: AL, AZ, CO, CT, DC, GA, IA, IL, KS, MA, MD, MI, MN, MO, MS, NC, NJ, NY, OH, PA, SC, TN, TX, VA.

Teleonemia nigrina Champion, 1898

Material examined: **ILLINOIS**: [Union Co.], Wolf Lake, 2 August 1932, H. L. Dozier, INHS Insect Collection 809949 [1 ♂].

Distribution: Canada: BC (Downes 1934, Scudder 1961, Maw et al. 2000); USA: AR, AZ, CA, GA, ID (Harris and Shull 1944), IL, KS, MO, NC, NJ, NM, NV (Beck and Allred 1966), OK, SC, TX, UT, VA.

Infraorder PENTATOMOMORPHA

Superfamily ARADOIDEA

Family ARADIDAE

Aneurus inconstans Uhler, 1871

Material examined: **ILLINOIS**: “N. Ill.” [no further data], Andreas Bolter Collection, INHS Insect Collection 776566, 776567, 776569 [2 ♂♂, 1 ♀].

Notes: Range updated from Swanson (2020a, b).

Distribution: Canada: AB, BC, MB, NS, ON, QC, SK; USA: CT, DC, DE, IL, IN, MA, MD, ME, MI, NC, NH, NJ, NY, OH, PA, RI, SD, TN, VA, VT.

Aradus abbas Bergroth, 1889

Material examined: **MINNESOTA**: [Saint Louis Co.], Duluth, [no further data], Andreas Bolter Collection, INHS Insect Collection 775832 [1 ♀]; “Min.” [no further data], Andreas Bolter Collection, INHS Insect Collection 775823 [1 ♀]; **MONTANA**: “Mont.” [no further data], Andreas Bolter Collection, INHS Insect Collection 777257 [1 ♂].

Notes: The specimen from Montana is point-mounted on the same flag as the specimen of *Aradus snowi* Van Duzee, 1920 reported below.

Distribution: Canada: AB, BC, MB, NB, NL, NS (Maw et al. 2000), NT, ON, QC, SK, YT (Scudder 1997, Maw et al. 2000); USA: AK, CA, CT, DC, FL, ID, IL, MA, ME, MI, MN, MT, NC, NH, NJ, NY, PA, VA, VT, WA, WI.

Aradus antennalis Parshley, 1921

Material examined: **COLORADO**: Douglas Co., Waterton, head of Hiline, 11 August 1988, J. T. Polhemus, det. [illegible] 1989, INHS Insect Collection 2457 [1 ♂]; *idem*, INHS Insect Collection 2459 [1 ♂]; *idem*, INHS Insect Collection 2460 [1 ♂]; *idem*, INHS Insect Collection 2461 [1 ♂]; Douglas Co., Waterton, head of Hiline, 30 August 1988, J. T. Polhemus, det. [illegible] 1989, INHS Insect Collection 2458 [1 ♀]; **NEW MEXICO**: “N. Mex.” [no further data], Andreas Bolter Collection, INHS Insect Collection 775798 [1 ♂♀, on single point].

Notes: There is variation in the antennal coloration between the two specimens from New Mexico: the male has the first three antennomeres flavous and the fourth one brown, whereas the female has all antennomeres brownish, except for the flavous apical two-thirds of third antennomere segment. It is not known whether this variation is attributable to sexual dimorphism or non-sexual intraspecific variability.

Distribution: Canada: BC; USA: CA, CO, ID, NE, NM, WA.

Aradus hesperius Parshley, 1921

Material examined: **NEW MEXICO**: “N. Mex.” [no further data], Andreas Bolter Collection, INHS Insect Collection 775801, 775802, 775812, 775822, 775831 [1 ♂, 3 ♀♀, 1 adult missing abdomen].

Distribution: USA: AZ, CO, NM.

Aradus ovatus Kormilev, 1966

Material examined: **FLORIDA**: “Fla.” [no further data], Andreas Bolter Collection, INHS Insect Collection 775790 [1 ♀].

Distribution: USA: FL, KS.

Aradus snowi Van Duzee, 1920

Material examined: **MONTANA**: “Mont.” [no further data], Andreas Bolter Collection, INHS Insect Collection 777257 [1 ♀].

Notes: This specimen is point-mounted on the same flag as the Montana specimen of *A. abbas* reported above.

Distribution: USA: AZ, MT, NM, TX.

Mezira sayi Kormilev, 1982

Material examined: **ALABAMA**: [Lee Co.], Auburn, 16 May 1954, H. Cunningham, INHS Insect Collection 777235 [1 ♀].

Notes: Range updated from Swanson (2020a).

Distribution: USA: AL, AR, FL, GA, IL, IN, LA, MS, NC, SC, TN, TX, VA.

Mezira vanduzeei Usinger, 1936

Material examined: **NEW MEXICO**: “N. Mex.” [no further data], Andreas Bolter Collection, INHS Insect Collection 775795–775797 [3 ♀♀].

Distribution: USA: AZ, NM.

Neuroctenus hopkinsi Heidemann, 1904

Material examined: **ARKANSAS**: Lee Co., St. Francis National Forest, Bear Creek Lake, 5 mi SE Marianna, sweeping herb. veg. along outlet creek—*Impatiens*, stinging nettle, 16 May 1988, D.W. Webb, INHS Insect Collection 777239–777241 [1 ♂, 2 ♀♀].

Distribution: USA: AR, GA, MD, NC.

Neuroctenus pseudonymus Bergroth, 1898

Material examined: **MISSOURI**: Barry Co., Cassville, Roaring River State Park, 26 April 1972, [no collector], INHS Insect Collection 777237 [1 ♀].

Notes: Range updated from Swanson et al. (2017).

Distribution: USA: AR (Skvarla et al. 2016), DC, DE (Bray and Triplehorn 1953), IL, IN, LA, MD, MO, NC, OH, TN, TX, VA.

Neuroctenus simplex (Uhler, 1876)

Material examined: **ALABAMA**: [Lee Co.], Auburn, 15 October 1952, A. D. Oliver, 44, INHS Insect Collection 777267 [1 ♀].

Notes: Range updated from Swanson (2020a, b).

Distribution: Canada: ON; USA: AL, AR, CT, DC, DE (Bray and Triplehorn 1953), FL, GA, IA, IL, IN, KS, LA (Taylor and Gil 2009), MA, MD, ME, MI, MO, MT, NC, NJ, NY, OH, OK, PA, SC, TX, WI.

Quilnus niger Stål, 1873

Material examined: **NEW MEXICO**: “N. Mex.” [no further data], Andreas Bolter Collection, INHS Insect Collection 775803 [1 ♂, 1 ♀, same pin].

Distribution: Canada: NB, NS, ON, QC; USA: AL, AR (Taylor and McPherson 1989), CO, DC, FL, MA, ME, MI (Swanson 2020b), MO, NC, NH, NJ, NY, NM, SC, TX, VA, WA.

Superfamily COREOIDEA

Family ALYDIDAE

Alydus conspersus Montandon, 1893

Material examined: **NEBRASKA**: Cherry Co., Nebraska National Forest, taken on *Euphorbia esula*, 13 June 1965, D. W. Ribble, INHS Insect Collection 748018 [1 ♀]; [Douglas Co.], Omaha, [no further data], Andreas Bolter Collection, det. J. Schaffner 1970, INHS Insect Collection 717886 [1 ♂, head & thorax missing]; [Douglas Co.], Omaha, [no collector], 563, det. J. Schaffner 1970, INHS Insect Collection 717912 [1 ♂, head missing]; “563” [no further data, see previous], det. J. Schaffner 1970, INHS Insect Collection 717917, 717922 [2 ♀♀]; “Neb.” [no further data], Andreas Bolter Collection, INHS Insect Collection 717924 [1 ♂].

Notes: Updated distribution from Swanson (2018).

Distribution: Canada: AB, BC, MB, NB, ON, QC, SK; USA: AZ, CO, CT, IA, IL, IN, MA, ME, MI, MN, ND, NE, NH, NJ, NY, OH, PA, SD, UT, WI, WY.

Alydus eurinus (Say, 1825)

Material examined: **OREGON**: [Benton Co.], McDonald Forest, 5 mi. N. Corvallis, 3 October 1963, T. G. Marsh, T. Marsh Collection, INHS Insect Collection 748161 [1 ♂]; [Coos Co.], Suislaw National Forest, Umpqua Lighthouse State Park, Salmon Harbor Rd., N 43° 32' W 124° 13', 45 m, 4

July 1999, K. C. Holston, INHS Insect Collection 809967–809970 [1 ♂, 3 ♀♀]; [Jefferson Co.], Crooked River National Grassland, East Springer Spring area, N 44° 30' W 121° 08', 945 m, 1 July 1999, K. C. Holston, INHS Insect Collection 809966 [1 ♂]; [Linn Co.], Willamette River, 28 September 1963, T. G. M. & T. D. K.[?], T. Marsh Collection, INHS Insect Collection 748154 [1 ♂].

Notes: Distribution updated from Swanson (2018). Specimens from Oregon are mentioned in Schaffner's (1964) unpublished dissertation.

Distribution: Canada: AB, BC, MB, NB, NS, NT, ON, PE, QC, SK, YT; USA: AK, AL, AR, AZ, CA, CO, CT, DC, FL, GA, IA, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, MT, NC, ND, NE, NH, NJ, NM, NY, OH, OK, OR, PA, RI, SC, SD, TN, TX, UT, VA, VT, WI, WV.

Alydus pilosulus Herrich-Schaeffer, 1847

Material examined: **COLORADO**: [El Paso Co.], Col. Spr., [no collector], 560, det. J. Schaffner 1970, INHS Insect Collection 718149 [1 ♂]; **KENTUCKY**: [Jackson Co.], 5 mi. NE McKee, 8 August 1971, R. K. & B. A. Sturgeon, T. Marsh Collection, INHS Insect Collection 748159 [1 ♂].

Distribution: USA: AL (Clem and Ray 2016), AR (Tugwell et al. 1973, Chordas et al. 2011), CA, CO, CT (Parshley 1917, 1923b; Pupedis 1997), DC, DE, FL, GA (Clem & Ray 2016), IA, IL, IN, KS, KY, LA, MA, MD, ME, MI (Swanson 2011b), MO, MS (Lago and Testa 2000), NC, NE, NJ, NM (Schaeffer and Schaffner 1994), NY, OH (Adkins 1917, Chordas et al. 2011, Clem and Ray 2016), OK, PA, RI (Parshley 1917), SC, TN (Lambdin et al. 2003, Clem & Ray 2016), TX, UT, VA, WI.

Protenor belfragii Haglund, 1868

Material examined: **MINNESOTA**: [Otter Tail Co.], Fergus Falls, 21 July 1911, [no collector], INHS Insect Collection 722737 [1 ♂]; [Saint Louis Co.], Eagles Nest, 26 August 1959 [additional dates: 7, 10 August 1959; 4, 25 August 1958; 5 September 1957; 3, 20 September 1958; 13 July 1957], W. V. Balduf, det. P. D. Ashlock 1959, INHS Insect Collection 722739–722746, 722763–722767, 722770–722781 [22 adults, 3 nymphs]; [Saint Louis Co.], Eaglenest Lake, 20 August 1942 [additional dates: 8, 27, 29 August 1942], W. V. Balduf, INHS Insect Collection 722711–722713, 722715–722724 [12 adults, 1 nymph]; [Saint Louis Co.], Ely, 11 September 1941, sweeping wild grass in low wet woods, W. V. Balduf, INHS Insect Collection 722725, 754691 [2 ♀♀]; [Saint Louis Co.], Ely, 19 August 1942 [additional dates: 20 August 1942, 27 August 1942], W. V. Balduf,

INHS Insect Collection 809898–809904 [7 adults].

Distribution: Canada: MB (Walley 1930, Maw et al. 2000), NB (Maw et al. 2000), NS (Scudder 2010a), ON, PE (Maw et al. 2000), QC, SK (Maw et al. 2000); USA: CA, CO, CT (Parshley 1917), IA, IL, IN, MA, ME, MI, MN, ND (Hussey 1922b), NH (Parshley 1917), NJ, NY, OH, TX, WI, WV (Hoffman 1975).

Family COREIDAE

Acanthocephala declivis (Say, 1832)

Material examined: **MISSISSIPPI**: Jackson Co., Gulf Coast Research Laboratory, 4 December 1974, T. G. Marsh, T. Marsh Collection, INHS Insect Collection 716610 [1 ♂].

Notes: Range updated from McPherson et al. (2011).

Distribution: USA: AL, AR, AZ, FL, GA, IL, KY, LA, MO, MS, NC, NM, OK (Drew and Schaefer 1963b), SC, TX, VA.

Catorhintha guttula (Fabricius, 1794)

Material examined: **CALIFORNIA**: Solono Co., Gates Canyon, malaise [trap], 23 July 1994, M. E. Irwin, INHS Insect Collection 716684 [1 ♂].

Distribution: USA: AZ, CA, CO, FL, IA (Osborn 1892), NC (Brimley 1942), NM, NV, OK, SC, TX.

Ceraleptus americanus Stål, 1870

Material examined: **ILLINOIS**: [Morgan Co.], Meredosia, sand pit, 20 August 1917, [no collector], det. T. R. Yonke 1972, INHS Insect Collection 666746 [1 ♂].

Distribution: USA: AR, AZ, CA, DC, FL, IA (Hendrickson 1930), IL, IN, LA, MO, MS, NC, NY, OK (Drew and Schaefer 1963b), TX, UT, VA (Hoffman 1999).

Chariesterus antennator (Fabricius, 1803)

Material examined: **KENTUCKY**: “Ky.” [no further data], Andreas Bolter Collection, det. T. R. Yonke 1971, INHS Insect Collection 667446, 666776 [1 ♂, 1 ♀].

Notes: Updated distribution from Swanson (2018).

Distribution: Canada: ON; USA: AR, CO, FL, GA, IA, IL, IN, KS, KY, LA, MD, MI, MS, NC, NE, NJ, NM, NY, OH, OK, PA, SC, SD, TN, TX, VA, WI.

Leptoglossus oppositus (Say, 1831a)

Material examined: **DELAWARE**: [Kent Co.], Dover, 30 June 1939, R. Traub, det. Packauskas 1991, INHS Insect Collec-

tion 669630, 669673 [2 ♀♀]; *idem*, 14 July 1937, INHS Insect Collection 669676 [1 ♂].

Distribution: Canada: NS (Scudder 2008); USA: AL, AR, AZ, DC, DE, FL, GA, IA, IL, IN, KS (Tucker 1907a, b), KY, LA, MD, MI (Swanson 2011b), MN, MO, MS, NC, NJ, NM, NY, OH, OK, PA, SC, TN (Allen 1969, Lambdin et al. 2003), TX, VA, WI.

Merocoris distinctus Dallas, 1852

Material examined: **MINNESOTA**: [Saint Louis Co.], Eagles Nest, 20 July 1958, W. V. Balduf, INHS Insect Collection 676405 [1 ♀]; *idem*, 4 August 1958, det. P. D. Ashlock 1959, INHS Insect Collection 676404, 676412 [2 ♀♀].

Notes: Updated distribution from Swanson (2018).

Distribution: Canada: AB, MB, ON, QC, SK; USA: AL, AR, AZ(?), CA(?), CO, CT, GA, IA, IL, IN, KS, MA, MD, ME, MI, MN, MO, MT, NC, NH, NJ, NM(?), NY, OH, OK, PA, RI, SC, SD, TN, TX, VA, VT, WI, WV.

Piezogaster calcarator (Fabricius, 1803)

Material examined: **KENTUCKY**: Jackson Co., 5 mi. NE McKee, 3 September 1971, J. D. Busacca & B. A. Sturgeon, T. Marsh Collection, INHS Insect Collection 716616 [1 ♀]; [county unknown], “Ky.” [no further data], INHS Insect Collection 670228 [1 ♂].

Notes: Packauskas (2010) treated *Piezogaster alternata* (Say, 1825) as a junior synonym of *P. calcarator*, which treatment is followed here, although it is worth noting that Dealy (2000), in an unpublished revisionary thesis, treated *P. alternata* as a valid species, like Van Duzee (1909a) nearly a century before. The species here examined fit the Dealy’s (2000) concept of *P. alternata* should the species eventually be revived. Unpublished records of *P. alternata* in Dealy’s (2000) thesis include Alabama, Connecticut, Kentucky, Louisiana, Minnesota, Pennsylvania, and West Virginia.

Distribution: USA: AZ (Snow 1904, 1906), AR (Chordas and Kremers 2009), CO, FL, GA (Scott and Fiske 1902), IA (Osborn 1892), IL, IN (Blatchley 1926), KS, KY, MD (Brown and Bahr 2008), MI, MO (Froeschner 1942), MS, NC, NJ, NY (Torre-Bueno 1908), OH (Osborn 1900), OK, SC, SD (Parshley 1922b, Harris 1937), TN, UT (Knowlton 1936, as *Archimerus alternatus*), VA (Hoffman 1975), WI.

Family RHOPALIDAE

Brachycarenum tigrinus (Schilling, 1829)

Material examined: **ILLINOIS**: Cook Co., Indian Ridge Marsh, railroad, 22–23

August 2001, N. Tzovolos, M. Waterstraat, Ref#155, Calumet Invertebrate Survey–INHS, Hem #65, INHS Insect Collection 809878 [1 ♀].

Distribution: Canada: BC (Scudder 2007); USA: AZ (Wheeler and Hoebeke 1999), CA (Wheeler and Hoebeke 1999), CO (Wheeler and Hoebeke 1999), ID (Scudder 2012), IL, MD, MI (Wheeler 1992), NE (Wheeler and Hoebeke 1999), NJ, NM (Wheeler 2004), NY, OR (Wheeler and Hoebeke 1999), PA, TX (Wheeler 2004), UT (Wheeler 2004), WY (Wheeler and Hoebeke 1999).

Harmostes angustatus Van Duzee, 1918

Material examined: **COLORADO**: [El Paso Co.], Manitou, 6124 ft., 3 June 11879, Andreas Bolter Collection, det. D. R. Swanson 2020, INHS Insect Collection 809951 [1 ♂].

Distribution: USA: AZ, CO, CA, NM, NV (Allred 1973), TX, UT.

Stictopleurus punctiventris (Dallas, 1852)

Material examined: **WISCONSIN**: [Iron Co.], Mercer, sweeping, August 1964, M. Moser, T. Marsh Collection, INHS Insect Collection 716619 [1 ♀].

Notes: Updated distribution from Swanson (2018).

Distribution: Canada: AB, BC, MB, NB, NL, NS, NT, ON, PE, QC, SK, YT; USA: AK, AZ, CA, CO, CT, GA, ID, IL, IN, MA, MD, ME, MI, MN, MT, NC (McPherson and Weber 1981), ND, NE, NH, NJ, NM, NY, OH, OK, OR, PA, SD, TN, TX, UT, VA, VT, WA, WI, WV, WY.

Superfamily LYGAEOIDEA

Family BLISSIDAE

Ischnodemus praecultus Distant, 1882

Examined material: **ALABAMA**: Mobile Co., Dauphin Island, 6 April 1974, T. G. & [?] E. Marsh, T. Marsh Collection, INHS Insect Collection 689855 [1 ♀].

Distribution: USA: AL, FL.

Family CYMIDAE

Cymus angustatus Stål, 1874

Material examined: **KENTUCKY**: “Ky.” [no further data], Andreas Bolter Collection, INHS Insect Collection 809854 [1 ♂]; **NEW MEXICO**: “N.Mex.” [no further data], Andreas Bolter Collection, INHS Insect Collection 809855 [1 ♀].

Distribution: Canada: AB, MB (Maw et al. 2000), NB (Maw et al. 2000), NS (Maw et al. 2000), ON, PE (Maw et al. 2000), QC; USA: AR (Tugwell et al. 1973; Chordas, Ro-

bison et al. 2005), AZ, CT, CO, DC, FL, GA, IA, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, NC, NE, NH, NJ, NM, NY, OH, OK, PA, RI, SC, TN (Howden and Crossley 1961), TX, VT, VA.

Family GEOCORIDAE

Geocoris punctipes (Say, 1831a)

Material examined: **MASSACHUSETTS**: Middlesex Co., Bedford Shawsheen Rd., xeric area, 20 July 1963, E. MacLeod, INHS Insect Collection 690748 [1 ♀].

Distribution: USA: AL, AR, AZ, CA, CO, DC, DE, FL, GA, IA, IL, IN, KS, LA, MA, MD, ME, MI, MO, MS, NC, NJ, NM, NY, NV, OK, PA, SC, TN, TX, VA.

Geocoris uliginosus (Say, 1831a)

Material examined: **MICHIGAN**: Berrien Co., Warren Dunes State Park, ex. beach sand, 10 October 1971, T. G. Marsh et al., INHS Insect Collection 689846, 689847 [2 ♀♀].

Notes: Van Duzee (1917a) listed several varieties under *G. uliginosus* that are now considered valid species. However, his Localities list did not discriminate between the varieties. One variety, now *Geocoris howardi* Montandon, 1908, was described from Michigan and thus was known from the state at the time of Van Duzee’s catalog. Thus, the “Mich.” in Van Duzee’s list under *G. uliginosus* is attributed to *G. howardi*, and the Michigan record of *G. uliginosus* here presented is treated as new.

Distribution: Canada: NB (Scudder 2010a), NL (Maw et al. 2000), ON (Maw et al. 2000), QC (Moore 1944, 1950; Maw et al. 2000); USA: AL, AR, CO (Kumar et al. 1976), CT, DE, FL, GA, IA, ID (Harris and Shull 1944), IL, IN, KS, KY, LA, MA, MD, ME (Parshley 1917, Johnson 1927), MI, MO, MS, NC, ND, NE, NH (Parshley 1917), NJ, NM, NY, OH, OK, PA, SC, SD (Moriyama and Balsbaugh 1976), TN, TX, UT (Knowlton 1932), VA, WI, WV, WY (Dennis et al. 2010).

Family LYGAEIDAE

Kleidocerys ovalis Barber, 1953

Material examined: **ILLINOIS**: Carroll Co., Mississippi Palisades State Park, 28 July 1977, W. G. Ruesink, INHS Insect Collection 690089–690092 [4 ♀♀].

Distribution: Canada: AB (Scudder 2008), BC, MB (Scudder 2008), ON, SK (Scudder 2008); USA: AZ, CA, CO, ID, IL, MA, ME, MI, MN, ND, NH, NY, OR, SD, UT, WA, WY.

Kleidocerys resedae (Panzer, 1797)

Material examined: **ALABAMA**: [Lee Co.], Auburn, 25 September 1953, H. Cunningham, INHS Insect Collection 809950 [1 ♀]; **MONTANA**: Beaverhead Co., Beaverhead National Forest, 25 mi. NNE. Dillon, 6000 ft., 22 June 2000, V. R. Block, INHS Insect Collection 809879 [1 ♀]; **NEW MEXICO**: [San Miguel Co.], Las Vegas, Andreas Bolter Collection, INHS Insect Collection 809856 [1 ♂].

Note: The distribution given below represents the species-level, aggregating the distributions of the three subspecies.

Distribution: Canada: AB, BC, MB, NB (Maw et al. 2000), NL, NS, NT (Maw et al. 2000), ON, PE (Scudder 2008), QC, SK (Maw et al. 2000), YT (Scudder 1997, Maw et al. 2000); USA: AK, AL, AR (Chordas, Robison et al. 2005), CA, CO, CT, DC, FL, GA, IA, ID, IL, IN, KS, LA, MA, MD, ME, MI, MN, MO, MT, NC, NE, NH, NJ, NM, NY, OH, OK, OR, PA, SC, SD, TN (Whittaker 1952, Lambdin et al. 2003), TX, WA, WI (Oatman et al. 1964, Williams 2004).

Lygaeus truculentus Stål, 1862

Material examined: **TEXAS**: “Tex.” [no further data], Andreas Bolter Collection, INHS Insect Collection 689658 [1 ♂].

Distribution: USA: AZ, CA, OR (Scudder 2012, as “*truncatulus*”), TX.

Melacoryphus lateralis Dallas, 1852

Material examined: **MISSOURI**: Boone Co., 13 April 1972, S. O. Swadener, INHS Insect Collection 690113 [1 ♀].

Distribution: Canada: BC, ON (Scudder 2008), SK; USA: AZ, CA, CO, IA, ID, KS, MO, MT, NE (Scudder 2012), NM, NV (Scudder 2012), OK, OR (Scudder 2012), SD, TX, UT, WY.

Melacoryphus nigrinervis (Stål, 1874)

Material examined: **NEW MEXICO**: [San Miguel Co.], Las Vegas, [no date], 714, [no collector], Andreas Bolter Collection, INHS Insect Collection 689656 [1 ♀]; “N. Mex.” [no further data], Andreas Bolter Collection, INHS Insect Collection 689651, 689653 [2 ♂♂].

Distribution: USA: AZ, CO, NM, TX (Barber 1948), UT.

Neortholomus scolopax (Say, 1831a)

Material examined: **MINNESOTA**: [Saint Louis Co.], Eagles Nest, 20 August 1958, W. V. Balduf, det. P. D. Ashlock 1959, INHS Insect Collection 604617, 604618 [2 ♂♂]; *idem*, 7 August 1959, det. D. M. Weisman 1961, INHS Insect Collection 604619,

612189 [2 ♂♂]; *idem*, 11 August 1959, INHS Insect Collection 612191 [1 ♀].

Distribution: Canada: AB (Maw et al. 2000), BC, MB, NB (Maw et al. 2000), NS, NT (Maw et al. 2000), ON, PE (Maw et al. 2000), QC, SK; USA: AR (Chordas, Robison et al. 2005), CA, CO, CT, FL, IA, ID, IL, IN, KS, LA, MA, MD, ME, MI, MN, MO, NC, ND, NE, NH, NJ, NY, OH, OK, OR (Scudder 2012), PA, SC, SD, TN (Lambdin et al. 2003), TX, WI.

Nysius raphanus Howard, 1872

Material examined: **MINNESOTA**: [Saint Louis Co.], Eagles Nest, 20 September 1958, W. V. Balduf, 55, det. P. D. Ashlock 1959, INHS Insect Collection 607591 [1 ♀].

Distribution: Canada: AB, BC, ON, SK; USA: AR (Skvarla et al. 2016), AZ, CA, CO, FL, GA (Scudder 2010b), IA, ID, IL (McPherson and Weber 1990), KS, LA, MD, MN, MO, NC, ND, NH (Scudder 2010b), NJ, NM, NV, NY, OK, OR, SC (Scudder 2010b), SD, TX, UT, VA, WA (Scudder 2012), WY (Dennis et al. 2010).

Nysius tenellus Barber, 1947

Material examined: **ILLINOIS**: “30228”, “EX. INHS ACCESSION LEDGER #30228 ~DRS. OCT. 2020 USA: ILLINOIS: [Pike Co.]: Griggsville: ex. corn: 25 July 1901: E[dward] S[harpe] G[aige] Titus”, *Nysius tenellus?* Det. Jas. A. Slater 1951, INHS Insect Collection 607716 [1 ♂].

Distribution: Canada: AB (Scudder 2012), BC, SK (Scudder 2010a); USA: AZ, CA, CO, FL, ID, IL, MT (Hewitt and Burleson 1976), NM, NV, OR, TX, UT, WA.

Oncopeltus fasciatus (Dallas, 1852)

Material examined: **DELAWARE**: [Kent Co.], Dover, 30 June 1939, Robt. Traub, INHS Insect Collection 607997 [1 ♂].

Distribution: Canada: ON, QC; USA: AR (Chordas et al. 2011), AZ, CA, CT, DE, FL, GA (Scott and Fiske 1902), IA, IL, IN, KS, KY (Chordas et al. 2011), LA, MA, MD, ME, MI, MN, MO, MS (Richmond 1962, Lago and Testa 2000), NC, NJ, NM (Scudder 2012), NY, OH, OK, PA, SD, TN, TX, VA, WI.

Xyonysius californicus (Stål, 1859)

Examined material: **ARKANSAS**: Logan Co., 1.8 mi W of Cove Lake, on pine seedling in bine barren, 17 July 1985, Steve Taylor, INHS Insect Collection 689783 [1 ♂]; **MINNESOTA**: [Saint Louis Co.], Eagles Nest, 30 July 1958 [additional date: 1, 4, 12, 25 August 1958, 7 August 1959, 16 July 1959], W. V. Balduf, det. P. D. Ashlock 1959, INHS Insect Collection 617005–617015, 612188, 612192 [13 adults].

Note: The distribution given below represents the species-level, aggregating the distributions of the two subspecies. In their catalog, Henry and Froeschner (1988) noted that “this form [*alabamensis*] is doubtfully distinct from [*californicus*].”

Distribution: Canada: AB (Barber 1947, Strickland 1953, Maw et al. 2000), BC (Downes 1924, 1927; Barber 1947; Maw et al. 2000), MB (Diehl et al. 1997, Maw et al. 2000), ON, SK (Maw et al. 2000); USA: AL, AR (Tugwell et al. 1973), AZ, CA, CO, CT, FL, GA, IA, IL, KS, LA, MD, ME, MN, MO, MS, NC, ND, NM, NV, NY, OK, OR, SC, SD, TN (Scudder 2010b), TX, UT, VA, WA, WY.

Family PIESMATIDAE

Parapiesma cinereum (Say, 1831a)

Examined material: **MISSISSIPPI**: Noxubee Co., 21 July 1972, Henry N. Pitre, 538, INHS Insect Collection 646625 [1 ♀].

Distribution: Canada: AB, BC, MB (Maw et al. 2000), ON, QC (Moore 1944, Maw et al. 2000), SK (Maw et al. 2000), YT (Maw et al. 2000); USA: AR (Tugwell et al. 1973), AZ, CA, CO, CT, DC, FL, IA, IL, IN, KS, MA, MD (Blöte 1945, Brown and Bahr 2008), ME, MI, MO, MS, NC, NJ, NY, OH, OK (Carpenter 1937, Smith 1940, Drew and Arnold 1977, Smith et al. 1996), OR, PA, RI, SD (Parshley 1922b, Harris 1937, Morihara and Balsbaugh 1976), TN (Summers 1891), TX, UT, WA, WI.

Parapiesma explanatum (McAtee, 1919)

Material examined: **NORTH DAKOTA**: Richland Co., Abercrombie, 3 July 1968, Harris & Cooley, GL793, INHS Insect Collection 646835, 646836, 809971–809973 [1 ♂, 4 ♀♀]; Richland Co., Colfax (2 mi W) 3 July 1968, Harris & Cooley, GL794, INHS Insect Collection 809956 [1 ♂].

Distribution: Canada: AB (Maw et al. 2000), BC, MB (Maw et al. 2000), SK (Maw et al. 2000); USA: ND, UT.

Family RHYPAROCHEMIDAE

Drymus unus (Say, 1831a)

Examined material: **MINNESOTA**: [Saint Louis Co.], Eagles Nest, 12 September 1958 [additional date: 20 September 1958], W. V. Balduf, INHS Insect Collection 701918, 701919, 704297 [2 ♂♂, 1 ♀].

Distribution: Canada: MB (Maw et al. 2000), NB, NL (Scudder 2008), NS, NT, ON, PE (Maw et al. 2000), QC, SK (Maw et al. 2000); USA: CO (Gillette and Baker 1895, Van Duzee 1917a), CT, IA, IL, IN, MA, MD, ME, MI, MN, MO, NC, NH, NJ, NY, PA, TX, VA (Hoffman 1999).

Ligyrocoris diffusus (Uhler, 1871)

Material examined: **MINNESOTA**: [Saint Louis Co.], Eagles Nest, 10 August 1957 [additional dates: 20 August 1958, 3 September 1958, 20 September 1958, 11 August 1959], W. V. Balduf, det. P. D. Ashlock 1959, INHS Insect Collection 702091–702107 [17 adults].

Distribution: Canada: AB, BC, MB (Maw et al. 2000), NB, NL, NS, NT (Maw et al. 2000), ON, PE (Scudder 2012), QC, SK, YT (Scudder 1997, Maw et al. 2000); USA: AR, AZ, CA, CO, CT, DC, FL (Frost 1964), IA, ID, IL, IN, KS, MA, MD, ME, MI, MN, MO, NC, ND, NH, NJ, NM, NY, OH (Balduf 1923), OR (Scudder 2012), PA, RI, SD, TN (Lambdin et al. 2003), TX, UT, VT, VA, WI.

Ligyrocoris sylvestris (Linnaeus, 1758)

Examined material: **MINNESOTA**: [Saint Louis Co.], Eagles Nest, 29 August 1942 [additional dates: 28 June 1952, 11 July 1952, 24 July 1952, 18 August 1953, 21 June 1957, 30 July 1958, 12 August 1958, 16 August 1958, 20 August 1958, 25 August 1958, 26 August 1958, 3 September 1958, 12 September 1958, 20 September 1958, 7 August 1959, 11 August 1959, 26 August 1959], W. V. Balduf, det. P. D. Ashlock 1959, INHS Insect Collection 702146–702149, 702152–702192 [45 adults].

Distribution: Canada: AB, BC, LB (Maw et al. 2000), MB (Maw et al. 2000), NB (Maw et al. 2000), NL, NS, NT (Maw et al. 2000), ON, PE (Maw et al. 2000), QC, SK, YT (Scudder 1997, Maw et al. 2000); USA: AK, AZ (Snow 1907), CO, CT, ID, IL, IN, KS, MA, MD (Uhler 1876), ME, MI, MN, MO, NC, ND, NH, NJ, NM (Scudder 2010b), NY, OH, PA, RI, SD, TX, UT, VT, WA (Scudder 2010b), WI, WY (Dennis et al. 2010).

Myodocha serripes Olivier, 1811

Material examined: **ALABAMA**: [Lee Co.], Auburn, 15 April 1954, H. Cunningham, INHS Insect Collection 690171, 690172 [2 ♂♂]; **GEORGIA**: [Dougherty Co.], Albany, 13 June 1970, Lloyd R. Davis, Jr., INHS Insect Collection 689809 [1 ♂]; **WISCONSIN**: Sauk Co., Parfrey's Glen, 20 June 1968, WUB, ALR, AG, INHS Insect Collection 752345 [1 ♀].

Distribution: Canada: ON, NS (Larivière and Larochelle 1991), QC; USA: AL, AR (Tugwell et al. 1973; Larivière and Larochelle 1991; Chordas, Robison et al. 2005), CO, CT, DE (Scudder 2012), FL, GA, IA, IL, IN, KS, KY (Larivière and Larochelle 1991), LA, MA, MD, ME, MI, MN, MO, MS (Richmond 1962), NC, NE, NH, NJ, NM, NY, OH, OK, PA, SC, TN, TX, VA, VT, WI, WV (Larivière and Larochelle 1991).

Paromius longulus (Dallas, 1852)

Material examined: **ALABAMA**: Montgomery Co., 9 mi. SE Pike Road 10 October 1983, Webb & Maddox, INHS Insect Collection 690236 [1 ♀].

Distribution: USA: **AL**, **AR** (Chordas et al. 2011), **FL**, **GA**, **LA**, **MS**, **MO**, **NC**, **OK** (Chordas and McAllister 2019), **SC**, **TN**, **TX**.

Scolopostethus thomsoni Reuter, 1874

Material examined: **MINNESOTA**: [Saint Louis Co.], Eaglesnest, Minn., 12 September 1958 [additional dates: 24 May 1959, 3 June 1959], W.V. Balduf, det. D. M. Weisman 1961, INHS Insect Collection 612101–3 [2 ♂♂, 1 ♀].

Distribution: Canada: **AB** (Maw et al. 2000), **BC**, **LB** (Maw et al. 2000), **MB** (Bird 1930, Maw et al. 2000), **NB** (Maw et al. 2000), **NL**, **NS**, **NT** (Maw et al. 2000), **ON**, **PE** (Maw et al. 2000), **QC**, **SK** (Maw et al. 2000), **YT** (Scudder 1997, Maw et al. 2000); USA: **AK**, **AZ**, **CA**, **CO**, **CT**, **IA**, **ID**, **IL**, **IN**, **MA**, **ME**, **MN**, **NH**, **NJ**, **NM**, **NV** (Scudder 2010b), **NY**, **OH**, **PA** (Jubb et al. 1979), **SD**, **UT**, **WY** (Scudder 2012).

Stygnocoris rusticus (Fallén, 1807)

Material examined: **MINNESOTA**: [Saint Louis Co.], Eagles Nest, 12 September 1958, W. V. Balduf, det. P. D. Ashlock 1959, INHS Insect Collection 704296, 704297 [2 ♀♀].

Distribution: Canada: **AB** (Barnes et al. 2000, Maw et al. 2000), **BC**, **NL** (Barnes et al. 2000, Maw et al. 2000), **NS**, **ON**, **PE**, **QC**, **SK** (Scudder 2010a); USA: **CT**, **IL**, **ME**, **MI**, **MN**, **NY**, **OH** (Chordas et al. 2008), **PA**, **VT**, **WA**, **WI**, **WV**.

Tempyra biguttula Stål, 1874

Material examined: **ARKANSAS**: Washington Co., 12 July 1942, [no collector], INHS Insect Collection 809957, 809958 [2 ♂♂].

Distribution: USA: **AR**, **DC** (Barber 1914b), **KS**, **MD**, **MO**, **TX**.

Zeridoneus costalis (Van Duzee, 1909b)

Material examined: **MINNESOTA**: [Saint Louis Co.], Eagles Nest, 20 August 1958, [no collector], det. P. D. Ashlock 1959, INHS Insect Collection 704308 [1 ♂].

Distribution: Canada: **AB**, **BC** (Scudder 1986, Maw et al. 2000), **MB**, **ON**, **QC**, **SK**; USA: **CT**, **IA**, **IL**, **IN**, **MA**, **MD**, **MN**, **MO**, **NC**, **ND**, **NH** (Parshley 1917), **NY**, **OH**, **SD**, **TN** (Lambdin et al. 2003), **WI**.

Superfamily PENTATOMOIDEA

Family ACANTHOSOMATIDAE

Elasmucha lateralis (Say, 1831a)

Material examined: **MARYLAND**: Baltimore Co., Gunpowder Falls St. Park, 2.0 mi NW Hereford, Berlese of leaves & Soil, 8 December 1992, E. A. Lisowski, INHS Insect Collection 809841 [1 ♀]; **WEST VIRGINIA**: [Pocahontas Co.], Durbin, Cheat Range, mixed forest, S31: 1 August 1943, [no collector], “sl369”, det. K. A. Phillips 1981, INHS Insect Collection 717827 [1 ♂].

Notes: Although Thomas (1991) characterized the range as “Maine to British Columbia, south to Tennessee in the east, to Nevada in the west”, I am unaware of specific records for the states reported here.

Distribution: Canada: **AB**, **BC**, **MB** (Walley 1929a, Brown 1941, Maw et al. 2000), **NB** (Walley 1929a, Maw et al. 2000), **NL**, **NS**, **NT** (Maw et al. 2000), **ON**, **PE** (Maw et al. 2000), **QC**, **SK** (Walley 1929a, Brown 1941, Maw et al. 2000), **YT** (Evans et al. 1978, Scudder 1997, Maw et al. 2000); USA: **AK**, **CA** (Hart 1919, Thomas 1991), **CT**, **IL** (McPherson 1977, 1979), **MA**, **MD**, **ME**, **MI**, **MN**, **NC** (Jones and McPherson 1980), **ND** (Rider 2012), **NH**, **NJ**, **NV** (Thomas 1991), **NY**, **OH**, **OR** (Harris and Shull 1944, Thomas 1991), **PA**, **RI**, **SC**, **TN** (Thomas 1991), **TX**(?) (Thomas 1991), **VA**, **VT**, **WA** (Harris and Shull 1944, Thomas 1991), **WV**.

Family SCUTELLERIDAE

Fokkeria producta (Van Duzee, 1904)

Material examined: **NEW MEXICO**: Roosevelt Co., 13 mi E Taiban, 2 September 1968, Cooley & Tucker, GL1188, INHS Insect Collection 697142 [1 ♀] (INHS).

Distribution: Canada: **AB**; USA: **CO**, **NM**.

Homaemus aeneifrons (Say, 1824)

Material examined: **OREGON**: Benton Co., Kings Valley, 28 September 1963, T. G. M[arsh] + T. D. U., INHS Insect Collection 697031 [1 ♂]; **WYOMING**: [Park Co.], Yellowstone National Park, meadow nr. Gallatin R., 9 August 1947, J. A. & H. H. Ross, INHS Insect Collection 696993 [1 ♂].

Notes: The distribution given below represents the species-level, aggregating the distributions of the two subspecies. Rider’s (2012) treatment is followed here, with the species comprising the more eastern *H. a. aeneifrons* and the western *Homaemus aeneifrons consors* Uhler, 1876. The examined material represents *H. a. consors*, and in these specimens, the juga are wholly black in the specimen from Oregon and yellowish

only at the extreme apex of the juga in the specimen from Wyoming. Unpublished records for this species mentioned in Lattin's (1964) dissertation include Arizona, Idaho, Iowa, Kansas, Rhode Island, Vermont, Washington, and West Virginia.

Distribution: Canada: AB, BC, MB, NB, NL, NS, NT, ON, PE (Maw et al. 2000), QC, SK, YT (Maw et al. 2000); USA: AK, CA, CO, IL (McPherson 1982), MA, MD, ME, MI, MN, MT, NC, ND (Hussey 1922b), NH, NJ, NM, NY, NE, **OR**, PA, SD, UT, VA, WI, **WY**.

Homaemus bijugis Uhler, 1872

Material examined: **MISSOURI**: Boone Co., sweeping, 27 July 1970, S. O. Swadener, Lot 31, INHS Insect Collection 697049 [1 ♀].

Distribution: Canada: AB, BC (Stoner 1926; Walley 1929a, b; Maw et al. 2000), MB (Maw et al. 2000), ON (Freese and Chordas 2021), SK; USA: AR (Lee and Barton 1983), AZ, CA, CO, FL, IA, ID, IL, KS, MN, **MO**, MT, ND (Rider 2012), NE, NM, NV, OK (Smith 1940, Stoner et al. 1962), SD, UT, WI (Williams 2004), **WY**.

Family THYREOCORIDAE

Corimelaena nigra Dallas, 1851

Material examined: **MINNESOTA**: [Saint Louis Co.], Eagles Nest, 4 June 1959, W. V. Balduf, *Corimelaena anthracina* det. D. M. Weisman 1961, INHS Insect Collection 688543 [1 ♀].

Distribution: Canada: AB, BC, "Hudson's Bay", MB (Criddle 1921; Walley 1929a, 1931; Maw et al. 2000), NB (Maw et al. 2000, Roch 2017), NS (Maw et al. 2000, Roch 2017), ON, QC, SK, YT; USA: AZ, CA, CO, ID (Van Duzee 1904, 1917a; Harris and Shull 1944), IL (Malloch 1919), IN (Blatchley 1926), MI, MN, NE (Van Duzee 1917a), NM, NV, NY, OR, SD, UT, WA.

Superfamily PYRRHOCOROIDEA

Family LARGIDAE

Arhapse carolina Herrich-Schäffer, 1850

Material examined: **ARKANSAS**: [Garland Co.], H[ot] Springs, 13 June, Andreas Bolter Collection, INHS Insect Collection 646841 [1 ♀]; *idem*, 28 May, INHS Insect Collection 646843 [1 ♀]; *idem*, 15 June, INHS Insect Collection 646844 [1 ♂].

Notes: Records of this species in Arizona and New Mexico are dubious (see Henry and Froeschner 1988, Stehlik and Kment 2011).

Distribution: USA: AL, **AR**, AZ(?), FL, GA, IL (Bouseman 1988), LA, MO, NC, NM(?), SC (Stehlik and Kment 2011), TN, TX, VA (Brailovsky 1981, Hoffman 2005).

Selected Corroborative Records

Infraorder DIPSOCOROMORPHA

Family CERATOCOMBIDAE

Ceratocombus vagans McAtee and Malloch, 1925

Material examined: **ILLINOIS**: [Adams Co.], Quincy, in dead grass, 22 May 1943, Clayton Hoff, INHS Insect Collection 761527 [1 macropterous ♂, 1 brachypterous ♂, 1 nymph]; [Adams Co.], Quincy, in debris from log, 8 July 1944, Clayton Hoff, INHS Insect Collection 761535 [1 brachypterous ♂]; [Adams Co., Coe Spgs., debr. under log, 22 May 1943, Clayton Hoff, INHS Insect Collection 761543 [1 brachypterous ♀]; [Adams Co., Siloam Sprgs. St. Pk., 1 October 1952, Ross & Mills, INHS Insect Collection 761574 [1 macropterous ♂, 1 brachypterous ♂, 4 brachypterous ♀♀, 1 nymph]; [Carroll Co.], Palisades St. Pk., 12 August 1944, Sanderson & Leighton, INHS Insect Collection 761531 [1 brachypterous ♀, 5 nymphs]; [Champaign Co., Mahomet, Hart Mem. Woods, grass pile, 11 June 1966, M. W. Sanderson, INHS Insect Collection 761598 [1 brachypterous ♀]; [Crawford Co.], Palestine, leafmould berlese, 8 June 1951, M. W. Sanderson, Acc. No. 49715, det. J. D. Lattin 1951, INHS Insect Collection 761530 [1 brachypterous ♂, 1 brachypterous ♀]; [Edgar Co.], Paris, Foley's Woods, 14 June 1950, Sand. & Stannard, Acc. 49671, INHS Insect Collection 761555 [1 brachypterous ♀]; [Jackson Co.], Giant City St. Pk., ground cover, 23 August 1944, Sanderson & Leighton, det. J. D. Lattin 1951, INHS Insect Collection 761529 [1 brachypterous ♀, 2 nymphs]; [Jo Daviess Co.], Apple R[iver] Can[yon] St. Pk., 6 September 1951, Mills & Ross, 49743, INHS Insect Collection 761553 [3 brachypterous ♀♀]; [Lake Co.], Wauconda, ground cover, tamarack bog, 28 October 1943, Ross & Sanderson, INHS Insect Collection 761526 [1 brachypterous ♀]; [Lake Co.], Volo, 12 September 1951, Rich & Stann, 49748, INHS Insect Collection 761552 [1 brachypterous ♀]; [Madison Co.], Edwardsville, in ground over or about logs, 24 September 1943, Ross & Sanderson, det. J. D. Lattin 1951, INHS Insect Collection 761528 [1 brachypterous ♂]; [Madison Co.], Edwardsville, decayed log, 24 September 1943, Ross & Sanderson, INHS Insect Collection 761533 [1 macropterous ♂]; [Mason Co.], Havana, on soil at base of sedges, etc., edge Ill. River, 1 October 1943, Ross & Sanderson, INHS Insect Collection 761544 [2 brachypterous ♀♀]; [Mason Co.], Havana, 13 October 1948, H. B. Mills, INHS Insect Collection 761545 [1 brachypterous ♀]; [McLean Co.], McLean, 3 August 1949, Mills & Ross, Acc. No. 49569, INHS Insect

Collection 761558 [2 brachypterous ♀♀]; [Vermilion Co.], Oakwood, 11 April 1951, T. E. Moore, INHS Insect Collection 761542 [1 macropterous ♂, 2 brachypterous ♂♂, 2 brachypterous ♀♀, 1 nymph]; [Vermilion Co.], Oakwood, ground cover, 22 September 1971, M. W. S. & K. M. S., INHS Insect Collection 761559 [1 brachypterous ♂, 1 brachypterous ♀]; [Will Co.], 5 mi. SSE. Naperville, ex. aerial net machine, 29 August 1971, T. E. Marsh, T. Marsh Collection, INHS Insect Collection 761628 [1 ♀]; **INDIANA:** Porter Co., Ogden Dunes, berlese sample, 9 August 1947, O. Park, INHS Insect Collection 761547 [2 brachypterous ♀♀]; **KENTUCKY:** [Lee Co.], Mt. Olive, 8 May 1947, Ritcher & Sanderson, Acc. No. 49375, INHS Insect Collection 761591 [5 brachypterous ♂♂, 5 brachypterous ♀♀, 3 nymphs]; [Powell Co.], Bowen, 8 May 1947, Ritcher & Sanderson, Acc. No. 49372, INHS Insect Collection 761593 [1 brachypterous ♂]; **LOUISIANA:** [St. Charles Par.], Norco, under bark, 3 November 1944, C. L. Remington, INHS Insect Collection 761599 [1 brachypterous ♀].

Note: Spooner (1938) reported this species from Illinois in the Acknowledgments (p. 8) of his study of the heteropteran head capsule, and this record is based on two nymphs taken in the “University Woods at Urbana, Illinois”. Lattin (2000) mentioned INHS specimens from each of the four above states and almost certainly is referencing the same specimens examined above; he also mentioned specimens constituting records from Iowa, Kansas, Oregon, and Washington in other institutions. However, Lattin did not provide any locality data. Thus, the above locality data are offered to corroborate these records and provide additional distributional data for these tiny, rarely-encountered insects.

Distribution: Canada: AB? (Maw et al. 2000), BC (Maw et al. 2000), ON, QC (Maw et al. 2000); USA: AK (Scudder and Sikes 2014), AR (Allen and Carlton 1989), DC (McAtee and Malloch 1925), FL, GA (Usinger 1946), IA (Lattin 2000), IL (Spooner 1938, Lattin 2000), IN (Lattin 2000), KS (Lattin 2000), KY (Lattin 2000), LA (Lattin 2000), MD, MI (Taber 2008), NH (Roch 2007), NY, OR (Lattin 2000), VA, WA (Lattin 2000).

Family MIRIDAE

Subfamily BRYOCORINAE

Tupiocoris rubi (Knight, 1968)

Material examined: **ILLINOIS:** [Calhoun Co.], Hardin, 5–9 June 1932, H. L. Dozier, INHS Insect Collection 642025, 642026 [2 ♀♀]; [Carroll Co.], Savanna, 11 June 1917 [additional date: 12 June 1917], [no

collector], INHS Insect Collection 642014, 642015, 642020 [2 ♂♂, 1 ♀]; [Champaign Co.], Urbana, in garden, 11 June 1933, H. H. Ross, INHS Insect Collection 642034 [1 ♀]; [Clark Co.], Rocky Branch, Dolson (Clarksville), on *Juglans nigra*, 14 June 1933, Frison & Ross, INHS Insect Collection 642031, 642032, 642038, 642039 [1 ♂, 3 ♀♀]; [Iroquois Co.], Sheldon, 4 June 1932, Frison & Mohr, INHS Insect Collection 642024 [1 ♀]; [Kane or McHenry Co.], Algonquin, 12 June 1897, [no collector], 110, INHS Insect Collection 642016–642019 [3 ♂♂, 1 ♀]; [Knox Co.], Galesburg, butternut, [no date] June, [no collector], INHS Insect Collection 642022 [1 ♀]; [Knox Co.], Galesburg, 19 June 1893, [no collector], INHS Insect Collection 642023 [1 ♀]; [Mason Co.], Manito, 2 June 1933, C. O. Mohr, INHS Insect Collection 642033 [1 ♀]; [McHenry Co.], Harvard, 11 June 1933, Mohr & Townsend, INHS Insect Collection 642027 [1 ♀]; [Sangamon Co.], Grandview, 24 June 1932, Frison & Mohr, INHS Insect Collection 642028–642030 [3 ♀♀]; [county unknown], Castle Rock, Grand Detour, 2 July 1932, Dozier and Mohr, INHS Insect Collection 642036, 642037 [1 ♂, 1 ♀].

Notes: Kelton (1980a) suggested that previous records for *Dicyphus agilis* (Uhler, 1877) were greatly confounded, and Knight (1968) had aligned some of his prior records to a new species, *Dicyphus rubi* Knight, 1968. Based on an examination of specimens in the INHS, records of *D. agilis* in Illinois (mentioned at least by Knight 1941) should be referred to this species. Though not indicated in the above transcriptions, all of the examined specimens bear a determination label with “*Dicyphus agilis* (Uhler) det. H. H. Knight” as well as another one with “*Tupiocoris rubi* (Knight) det. D. R. Swanson 2020”. Henry (2010) indicated that Wheeler et al.’s (1983) record of *Dicyphus agilis* from West Virginia was a misidentification of this species.

Distribution: Canada: AB (Maw et al. 2000), BC, MB, NB (Maw et al. 2000), NL (Maw et al. 2000), NS, ON, PE (Maw et al. 2000), QC, SK, YT (Scudder 1997, Maw et al. 2000); USA: CT (Knight 1923, as *Dicyphus agilis*), IL (Knight 1941, as *Dicyphus agilis*), KY (Henry et al. 2005), NY, WI, WV (Wheeler et al. 1983, as *Dicyphus agilis*).

Subfamily MIRINAE

Trigonotylus tenuis Reuter, 1893

Material examined: **ILLINOIS:** “17228”, “EX. INHS ACCESSION LEDGER #17228 ~DRS. OCT. 2020 USA: **ILLINOIS:** [Massac Co.]: Metropolis: along road at foot of low bluffs: 17 Aug. 1891: S[higetsura] Shiga & Charles A[rthur] Hart”, INHS Insect Collection 628728, 628729 [2 ♂♂];

[Massac Co.], Metropolis, 20 August 1916, [C. A. Hart], *Trigonotylus brevipes* det. H. H. Knight, INHS Insect Collection 628724, 628725 [1 ♂, 1 ♀].

Notes: Eyles (1975) treated *Trigonotylus dohertyi* (Distant, 1904) as a junior synonym of *Trigonotylus doddi* (Distant, 1904), and Golub (1989) treated *T. doddi* as a junior synonym of *T. tenuis*. Wheeler and Henry (1992) indicated that many records of *Trigonotylus brevipes* Jakovlev, 1880 in North America referred to *T. tenuis*, but Scudder (2018) indicated that all records of *T. tenuis* from Canada should be excluded, as they might represent other species. The examined specimens are the same specimens examined and reported by Knight (1941) as *T. brevipes*. However, the specimens from 17 August 1891 require clarification: one is unequivocally a male, whereas the other seems to be a male, despite a missing abdomen, although the rostrum does not reach the mesocoxae. Of specimens of *T. brevipes* in INHS, only those from Illinois were examined.

Distribution: USA: AL, AR (Snodgrass et al. 1984), AZ, CA, CO, CT (Knight 1941, as *T. brevipes*), DE (Bray and Triplehorn 1953), FL, GA, IL, KY (Knight 1941, as *T. brevipes*), LA, MD, MO (Froeschner 1949, as *T. brevipes*), MS (Snodgrass et al. 1984), NC, NJ, NV, NY (Knight 1941, as *T. brevipes*), PA (Wheeler and Henry 1992), SC, TN, TX UT, VA.

Subfamily PHYLINAE

Rhinacloa forticornis Reuter, 1876

Material examined: ILLINOIS: [Champaign Co.], Urbana, in yard, 29 June 1914, [no collector], det. H. H. Knight, INHS Insect Collection 610796 [1 ♀].

Notes: The presence of this species in Illinois, reported by Knight (1927a, 1941) as well as Ward et al. (1977), was considered questionable (e.g., Schuh and Schwarz 1985, Henry and Froeschner 1988). However, the above examined material does indeed represent *R. forticornis*, confirming the species' one-time presence in the state. It is worth noting that in this specimen the scale-like setae are present on the pronotum but seem to have rubbed off the hemelytra.

Distribution: USA: AZ, CA, CO, FL (Barber 1914a), IA (Knight 1927a), IL (Knight 1927a, 1941; Ward et al. 1977), MO, MS (Snodgrass et al. 1984), NJ (Ward et al. 1977), NM NV, PA (Wirtner 1904), TX, UT.

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Literature Cited

- Abbott, J. F. 1916. New species of Corixidae. Entomological News 27(8): 340–343.
- Adkins, W. S. 1917. Some Ohio Heteroptera records. The Ohio Journal of Science 18(2): 58–61.
- Akingbohunge, A. E. 1974. Chromosome numbers of some North American mirids (Heteroptera: Miridae). Canadian Journal of Genetics and Cytology 16: 251–256.
- Alberts, B. 2018, August 22. "Andrew Bolter (1820–1900)." Immigrant Entrepreneurship. German Historical Institute. Available from <https://www.immigrantentrepreneurship.org/entries/andrew-bolter/#edn45> <accessed 19 November 2020>.
- Allen, R. C. 1969. A revision of the genus *Lep toglossus* Guerin (Hemiptera: Coreidae). Entomologica Americana 45: 35–140.
- Allen, R. T., and C. E. Carlton. 1989. New records of Ceratocombidae and Schizopteridae from Arkansas (Heteroptera: Dipsocoromorpha). Journal of the Kansas Entomological Society 62(1): 125–126.
- Allred, D. M. 1973. Records of Coreidae (Hemiptera) from the Nevada Test Site. Great Basin Naturalist 33(2): 123.

- Anonymous. 1959a.** Cereal and forage insects, pp. 501–508. *In* Cooperative Economic Insect Report 9(24): 499–530.
- Anonymous. 1959b.** Cereal and forage insects, pp. 596–601. *In* Cooperative Economic Insect Report 9(27): 595–614.
- Anonymous. 1959c.** Cereal and forage insects, pp. 617–623; Truck crop insects, pp. 624–627. *In* Cooperative Economic Insect Report 9(28): 615–638.
- Anonymous. 1959d.** Cereal and forage insects, pp. 745–749; Truck crop insects, pp. 751–752. *In* Cooperative Economic Insect Report 9(33): 743–766.
- Anonymous. 1959e.** Cereal and forage insects, pp. 841–844. *In* Cooperative Economic Insect Report 9(37): 839–858.
- Anonymous. 1959f.** Cereal and forage insects, pp. 864–866. *In* Cooperative Economic Insect Report 9(38): 859–874.
- Anonymous. 1959g.** Cereal and forage insects, pp. 893–898; Truck crop insects, pp. 899–901. *In* Cooperative Economic Insect Report 9(40): 891–910.
- Anonymous. 1959h.** Cereal and forage insects, pp. 913–915. *In* Cooperative Economic Insect Report 9(41): 911–926.
- Anonymous. 1964a.** Summary of insect conditions in the United States—1963. Cooperative Economic Insect Report 14(10): 151–162.
- Anonymous. 1964b.** Cereal and forage insects, pp. 533–541. *In* Cooperative Economic Insect Report 14(22): 531–562.
- Anonymous. 1964c.** Cereal and forage insects, pp. 565–573. *In* Cooperative Economic Insect Report 14(23): 563–598.
- Arbogast, R. T. 1984.** Demography of the predaceous bug *Dufouriellus ater* (Hemiptera: Anthocoridae). *Environmental Entomology* 13: 990–994.
- Balduf, W. V. 1923.** The insects of the soybean in Ohio. *Bulletin of the Ohio Agricultural Experiment Station* 366: 147–181.
- Barber, H. G. 1914a.** Insects of Florida. II. Hemiptera. *Bulletin of the American Museum of Natural History* 33: 495–535.
- Barber, H. G. 1914b.** New Hemiptera-Heteroptera, with comments upon the distribution of certain known species. *Journal of the New York Entomological Society* 22(2): 164–171.
- Barber, H. G. 1947.** Revision of the genus *Nysius* in the United States and Canada (Hemiptera Heteroptera: Lygaeidae). *Journal of the Washington Academy of Sciences* 37(10): 354–366.
- Barber, H. G. 1948.** Lygaeidae collected in western Texas, with a new *Lygaeospilus* from California. *The Ohio Journal of Science* 48(2): 66–68.
- Barber, H. G. 1953.** A revision of the genus *Kleidocerys* Stephens in the United States (Hemiptera, Lygaeidae). *Proceedings of the Entomological Society of Washington* 55(5): 273–283.
- Barnes, D. I., H. E. L. Maw, and G. G. E. Scudder. 2000.** Early records of alien species of Heteroptera (Hemiptera: Prosorrhyncha) in Canada. *Journal of the Entomological Society of British Columbia* 97: 95–102.
- Beck, D. E., and D. M. Allred. 1966.** Tingidae, Neididae (Berytidae) and Pentatomidae of the Nevada Test Site. *Great Basin Naturalist* 26(1–2): 9–16.
- Bennett, D. V., and E. F. Cook. 1981.** The semi-aquatic Hemiptera of Minnesota (Hemiptera: Heteroptera). University of Minnesota, Agricultural Experiment Station Technical Bulletin 332: 1–59.
- Bergroth, E. E. 1889.** Sur quelques Aradides appartenant au Musée Royal d'Histoire Naturelle de Bruxelles. *Annales de la Société Entomologique de Belgique* 33: clxxx–clxxxii.
- Bergroth, E. E. 1897.** On two remarkable Californian Hemiptera. *Entomological News* 8: 95–96.
- Bergroth, E. E. 1898.** Aradidae americanae novae vel minus cognitae. *Wiener Entomologische Zeitung* 17(1): 26–27.
- Beyer, A. H. 1921.** Garden flea-hopper in alfalfa and its control. United States Department of Agriculture Bulletin No. 964. 27 pp.
- Bird, R. D. 1930.** Biotic communities of the aspen parkland of central Canada. *Ecology* 11(2): 356–442.
- Blatchley, W. S. 1926.** Heteroptera or True Bugs of Eastern North America, with Especial Reference to the Faunas of Indiana and Florida. Nature Publishing Company, Indianapolis, IN. 1116 pp.
- Blinn, R. L., and T. R. Yonke. 1985.** An annotated list of the Miridae of Missouri (Hemiptera: Heteroptera). *Transactions of the Missouri Academy of Science* 19: 73–98.
- Blöte, H. C. 1945.** Catalogue of the Berytidae, Piesmididae and Tingidae in the Rijksmuseum van Natuurlijke Historie. *Zoologische Mededeelingen* 25: 72–92.
- Bobb, M. L. 1974.** The insects of Virginia: No. 7. The aquatic and semi-aquatic Hemiptera of Virginia. Research Division Bulletin 87. Virginia Polytechnic Institute and State University, Blacksburg, VA. 195 pp.
- Bouseman, J. K. 1988.** *Araphe carolina* in Illinois (Hemiptera: Largidae). *The Great Lake Entomologist* 21(3): 117.

- Brailovsky, H. 1981.** *Arhaphe* H. S., descripción de nuevas especies (Hemiptera: Heteroptera: Largidae). *Folia Entomológica Mexicana* 47: 81–109.
- Bray, D. F., and C. A. Triplehorn. 1953.** Survey of the insect fauna of red and pin oaks in Delaware. *Bulletin of the University of Delaware Agricultural Experiment Station* 297: 1–28.
- Brett, C. H., R. R. Walton, and E. E. Ivy. 1946.** The cotton flea hopper *Psallus seriatus* (Reut.) in Oklahoma. *Oklahoma Agriculture Experimental Station Technical Bulletin T-24*. 31 pp.
- Brimley, C. S. 1938.** The Insects of North Carolina: Being a List of the Insects of North Carolina and Their Close Relatives. North Carolina Department of Agriculture, Raleigh. 560 pp.
- Brimley, C. S. 1942.** Supplement to Insects of North Carolina. North Carolina Department of Agriculture, Raleigh. 39 pp.
- Brown, A. W. A. 1941.** Foliage insects of spruce in Canada. Canadian Department of Agriculture, Publication No. 712. *Technical Bulletin* 31: 1–30, 2 pl.
- Brown, J. W., and S. M. Bahr II. 2008.** Appendix: List of the invertebrates of Plummers Island, Maryland. *Bulletin of the Biological Society of Washington* 15(1): 192–226.
- Cagle, L. R., and H. W. Jackson. 1947.** Life history of the garden fleahopper. Virginia Agricultural Experiment Station, *Technical Bulletin* 107. 27 pp.
- Carpenter, J. R. 1937.** Fluctuations in biotic communities. III. Aspection in a ravine sere in central Oklahoma. *Ecology* 18(1): 80–92.
- Carvalho, J. C. M. 1947.** Mirídeos neotropicais, XXVIII: gêneros *Melanotrachus* Reuter, *Crassicollus* n. gen., *Myrmecozelotes* Berg e *Hyporhinocoris* Reuter (Hemiptera). *Boletim do Museu Nacional, Rio de Janeiro (Nova Serie) (Zoología)* 83: 1–15.
- Carvalho, J. C. M., and E. Wagner. 1957.** A world revision of the genus *Trigonotylus* Fieber (Hemiptera-Heteroptera, Miridae). *Arquivos do Museu Nacional, Rio de Janeiro* 43: 121–155.
- Champion, G. C. 1898.** Insecta: Rhynchota (Hemiptera-Heteroptera). Volume II, pp. 33–192. *In*: F. D. Godman, and O. Salvin (eds.), *Biologia Centrali-Americana (Prospectus): Zoology, Botany and Archaeology*. B. Quaritch, London.
- Chordas III, S. W., E. G. Chapman, P. L. Hudson, M. A. Chriscinske, and R. L. Stewart, Jr. 2002.** New Midwestern states records of aquatic Hemiptera (Corixidae: Notonectidae). *Entomological News* 113(5): 310–314.
- Chordas III, S. W., R. N. Ferreira, and R. L. Stewart, Jr. 2005.** Synopsis of the backswimmers (Hemiptera: Notonectidae) of New Hampshire. *The Northeastern Naturalist* 12(2): 187–194.
- Chordas III, S. W., G. L. Harp, and G. W. Wolfe. 1996.** Aquatic macroinvertebrates of the White River National Wildlife Refuge, Arkansas. *Proceedings of the Arkansas Academy of Science* 50: 42–51.
- Chordas III, S. W., and P. L. Hudson. 1999.** A list of Michigan Corixidae (Hemiptera) with four new states records from the Great Lakes of Michigan. *Entomological News* 110(4): 246–250.
- Chordas III, S. W., and J. Kremers. 2009.** Backyard “bug” collecting results in 6 new state records for Arkansas, U.S.A. *Journal of the Arkansas Academy of Science* 63: 177–179.
- Chordas III, S. W., and C. T. McAllister. 2019.** Seven novel Hemiptera (Miridae; Pentatomidae; Reduviidae; Phyrparochromidae) records from southeastern Oklahoma. *Proceedings of the Oklahoma Academy of Science* 99: 84–88.
- Chordas III, S. W., L. B. Patrick, and M. B. Lauffer. 2008.** Eight new Ohio state records of true bugs from pitfall traps. *The Great Lakes Entomologist* 41(1–2): 73–79.
- Chordas III, S. W., H. W. Robison, E. G. Chapman, B. G. Crump, and P. W. Kovarik. 2005.** Fifty-four state records of true bugs (Hemiptera: Heteroptera) from Arkansas. *Journal of Arkansas Academy of Science* 59: 43–50.
- Chordas, S. W., III, R. L. Stewart, Jr., and L. Butler. 1999.** First records of the family Notonectidae (Insecta: Hemiptera) from West Virginia. *Entomological News* 110(2): 99–102.
- Chordas III, S. W., R. Tumilson, H. W. Robison, and J. Kremers. 2011.** Twenty three true bug state records Arkansas, with two for Ohio, U.S.A. *Journal of the Arkansas Academy of Science* 65: 153–159.
- Clem, C. S., and C. H. Ray. 2016.** Checklist of the broad-headed bugs (Insecta: Hemiptera: Alydidae) of Alabama, United States. *Check List* 12(5): 1974 [17 pp.]. doi: 10.15560/12.5.1974
- Clem, C. S., D. R. Swanson, and C. H. Ray. 2019.** The Reduviidae (Hemiptera: Heteroptera) of Alabama, with a morphological key to species. *Zootaxa* 4688(2): 151–198. Available from <https://doi.org/10.11646/zootaxa.4688.2.1>
- Cochran, B. G., and G. L. Harp. 1990.** The aquatic macroinvertebrates of the St. Francis sunken lands in northeast Arkansas. *Proceedings of the Arkansas Academy of Science* 44: 129–130.
- Cockerell, T. D. A. 1903.** Additional records, p. 113. *In* E. P. Van Duzee, *Hemiptera of*

- Beulah, New Mexico. Transactions of the American Entomological Society 29: 107–113.
- Crevecoeur, F. F. 1905.** Additions to the list of the hemipterous fauna of Kansas. Transactions of the Kansas Academy of Science 19: 232–237.
- Criddle, N. 1921.** The entomological record, 1920. Annual Report of the Entomological Society of Ontario 51: 72–90.
- Dallas, W. S. 1851.** List of the specimens of hemipterous insects in the collection of the British Museum. Volume 1. Taylor & Francis, Inc., London. 368 pp., 11 pls.
- Dallas, W. S. 1852.** List of the specimens of hemipterous insects in the collection of the British Museum. Volume 2. Taylor & Francis, Inc., London. 224 [369–592] pp., 4 [12–15] pls.
- Dealy, B. 2000.** A revision of the genus *Piezogaster* Amyot & Serville (Heteroptera: Coreidae: Nematopodini) and the description of two new species. Unpublished Master's Thesis, Fort Hays State University. 121 pp.
- Dennis, D. S., R. J. Lavigne, and J. G. Dennis. 2010.** Hemiptera (Heteroptera/Homoptera) as prey of robber flies (Diptera: Asilidae) with unpublished records. Journal of the Entomological Research Society 12(1): 27–47.
- Diehl, J. K., N. J. Holliday, C. J. Lindgren, and R. E. Roughley. 1997.** Insects associated with purple loosesrife, *Lythrum salicaria* L., in southern Manitoba. The Canadian Entomologist 129(5): 937–948.
- Distant, W. L. 1882.** Insecta: Rhynchota (Hemiptera-Heteroptera). Volume I, pp. 169–224. In F. D. Godman, and O. Salvin (eds.), *Biologia Centrali-Americana (Prospectus): Zoology, Botany and Archaeology*. B. Quaritch, London.
- Distant, W. L. 1904.** Rhynchotal Notes.--XXII. Heteroptera from North Queensland. Annals and Magazine of Natural History, Seventh Series 13: 263–276.
- Dmitriev, D. 2015.** Illinois Natural History Survey Insect Collection. Illinois Natural History Survey. Occurrence dataset. Available from GBIF.org (accessed on 18 December 2020). <https://doi.org/10.15468/eol0pe>
- Downes, W. 1924.** New records of Hemiptera from British Columbia. Proceedings of the British Columbia Entomological Society 21: 27–33.
- Downes, W. 1927.** A preliminary list of the Heteroptera and Homoptera of British Columbia. Proceedings of the British Columbia Entomological Society 23: 3–22.
- Downes, W. 1934.** Additions to the list of B. C. Hemiptera. Proceedings of the British Columbia Entomological Society 31: 46–48.
- Drake, C. J. 1930.** Notes on American Tingitidae (Hemiptera). Bulletin of the Brooklyn Entomological Society 25: 268–272.
- Drake, C. J., and H. C. Chapman. 1953.** An undescribed saldid from the Gulf states (Hemiptera: Saldidae). Bulletin of the Brooklyn Entomological Society 48: 64–66.
- Drake, C. J., and H. M. Harris. 1943.** Notas sobre Hebridae del Hemisferio Occidental (Hemiptera). Notas del Museo de la Plata, Zoologia 8: 41–58.
- Drake, C. J., and F. C. Hottes. 1950.** Saldidae of the Americas (Hemiptera). The Great Basin Naturalist 10(1–4): 51–61.
- Drew, W. A., and D. C. Arnold. 1977.** Tingoidea of Oklahoma (Hemiptera). Proceedings of the Oklahoma Academy of Science 57: 29–31.
- Drew, W. A., and K. Schaefer. 1963a.** The Reduvioidae of Oklahoma (Hemiptera). Proceedings of the Oklahoma Academy of Science 43: 98–112.
- Drew, W. A., and K. F. Schaefer. 1963b.** The Coreidae of Oklahoma (Hemiptera). Proceedings of the Oklahoma Academy of Science 43: 112–122.
- Dufour, L. 1833.** Mémoire sur les genres *Xylocoris*, *Leptopus* et *Velia*. Annales de la Société Entomologique de France 2: 104–118.
- Durfee, R. S., B. C. Kondratieff, and L. J. Livo. 1999.** New records of aquatic Heteroptera for Colorado: Notonectidae, Pleidae, Corixidae. Entomological News 110(4): 243–245.
- Ellis, L. L. 1952.** The aquatic Hemiptera of southeastern Louisiana (exclusive of the Corixidae). The American Midland Naturalist 48(2): 302–329.
- Evans, D., D. P. Lowe, and R. S. Hunt. 1978.** Annotated check list of forest insects and diseases of the Yukon Territory. Canadian Forest Service Report BC-X-169. 31 pp.
- Evenhuis, N. L. 1997.** Litteratura Taxonomica Dipteroorum (1758–1930) being a selected list of the books and prints of Diptera taxonomy from the beginning of Linnaean nomenclature to the end of the year 1930; containing information on the biographies, bibliographies, types, collections, and patronymic genera of the authors listed in this work; including detailed information on publication dates, original and subsequent editions, and other ancillary data concerning the publications listed herein. 2 Vols. Backhuys Publishers, Leiden. x + 871 pp.
- Eyles, A. C. 1975.** Further new genera and other new combinations for species previously assigned to *Megaloceroea* (Hemiptera: Miridae: Stenodemini). Journal of Natural History 9: 153–167.

- Fabricius, J. C. 1794.** Entomologia systematica emendata et aucta. Secundum classes, ordines, genera, species adiectis synonymis, locis, observationibus, descriptionibus. Tomus quartus. C. G. Proft, Fil. et Soc., Hafniae. 472 pp.
- Fabricius, J. C. 1803.** Systema Rhyngotorum secundum ordines, genera, species adiectis synonymis, locis, observationibus, descriptionibus. Carolum Reichard, Brunsvigae. 314 pp.
- Fallén, C. E. 1807.** Monographia Cimicum succiae. C. G. Proft, Hafniae. 123 pp.
- Farris, J. L., and G. L. Harp. 1982.** Aquatic macroinvertebrates of three acid bogs on Crowley's Ridge in Northeast Arkansas. Journal of the Arkansas Academy of Science 36: 23–27.
- Fieber, F. X. 1844.** Entomologische Monographien. Abhandlung der Königlische Böhmisches Gesellschaft der Wissenschaften in Prag, Fifth Series 3: 279–416.
- Fieber, F. X. 1851.** Species generis *Corisa* monographice despositae. Abhandlung der Königlische Böhemischen Gesellschaft der Wissenschaften in Prag, Series 5, 7: 213–260, 2 pls. [Also: Actis Regiae Bohemicae Societatis Scientiarum, Pragae, 1: 1–48, 2 pls.]
- Fieber, F. X. 1858.** Kriterien zur generischen Theilung der Phytocoriden (Capsini auct.). Wiener Entomologische Monatschrift 2(10): 289–327.
- Fieber, F. X. 1861.** Die europäischen Hemiptera. Halbflügler. (Rhynchota Heteroptera). [Zweiter Heft]. Carl Gerold's Sohn, Wien. Pp. 109–304.
- Fitch, A. 1856.** Third report on the noxious, beneficial and other insects, of the state of New York. Transactions of the New York State Agricultural Society 16: 315–490.
- Fitch, A. 1861.** The quince tingis. Country Gentleman 17: 114.
- Freese, E. L., and S. W. Chordas III. 2021.** 2021 new state/provincial insect records: *Homaemus bijugis* Uhler. Newsletter of the Michigan Entomological Society 65(2): 2.
- Froeschner, R. C. 1942.** Contributions to a synopsis of the Hemiptera of Missouri, Pt. II. Coreidae, Aradidae, Neididae. The American Midland Naturalist 27(3): 591–609.
- Froeschner, R. C. 1949.** Contributions to a synopsis of the Hemiptera of Missouri, Pt. IV. Hebridae, Mesoveliidae, Cimicidae, Anthocoridae, Cryptostemmatidae, Isometopidae, Meridae. The American Midland Naturalist 42(1): 123–188.
- Frost, S. W. 1964.** Insects taken in light traps at the Archbold Biological Station, Highlands County, Florida. The Florida Entomologist 47(2): 129–161.
- Geoffroy, E. L. 1785.** [Beschreibungen der Arten]. In A.-F. De Fourcroy (ed.), Entomologia Parisiensis; sive Catalogus Insectorum quae in Agro Parisiensi reperiuntur; Secundum methodum Geoffraeanam in sectiones, genera et species distributus: Cui addita sunt nomina trivialia et fere trecentae novae species. [Part 1]. Via et aedibus Serpentineis, Paris. 231 pp.
- Gibson, A. 1915.** The entomological record, 1914. Annual Report of the Entomological Society of Ontario 45: 123–150.
- Gibson, A. 1916.** The entomological record, 1915. Annual Report of the Entomological Society of Ontario 46: 194–230.
- Gibson, E. H. 1918.** The genus *Corythucha* Stal (Tingidae; Heteroptera). Transactions of the American Entomological Society 44(1): 69–104.
- Gibson, A. 1919.** The entomological record, 1918. Annual Report of the Entomological Society of Ontario 49: 97–123.
- Gillette C. P., and C. F. Baker. 1895.** A preliminary list of the Hemiptera of Colorado. Colorado Agricultural Experiment Station Bulletin 31 (Tech. Ser. No. 1): 1–137.
- Goeden, R. D. 1971.** Insect ecology of silverleaf nightshade. Weed Science 19(1): 45–51.
- Golub, V.B. 1989.** Palearctic species of capsid bugs of the genus *Trigonotylus* (Heteroptera, Miridae). Nasekomye Mongolii [= Insects of Mongolia] 10: 136–164. [in Russian].
- Green, S. C. 1937.** Aquatic Hemiptera of Reelfoot Lake. Journal of the Tennessee Academy of Science 12(1): 154–162.
- Guérin-Méneville, F. E. 1857.** Animaux articulés a pieds articulés. In R. de la Sagra (ed.), Histoire physique, politique et naturelle de l'Île de Cuba. Arthus Bertrand, Paris. 868 pp.
- Haglund, C. J. E. 1868.** Hemiptera nova. Stettiner Entomologische Zeitung 29: 150–163.
- Halbert, S. E. 2014.** Entomology Section, Entomology specimen report. Tri-ology 53(2): 5–7.
- Hampton, N. 2005.** Insects of the Idaho National Laboratory: a compilation and review. U.S. Department of Agriculture Forest Service, Proceedings of the Rocky Mountain Research Station 38: 116–130.
- Handlirsch, A. 1898.** Zwei neue Phymatiden. Verhandlungen der Kaiserlich-Königlichen Zoologisch-Botanischen Gesellschaft in Wien 48: 382–384.
- Harp, G.L. 1985.** A synopsis of the Nepidae of Arkansas. Proceedings of the Arkansas Academy of Science 39: 128–130.

- Harp, G. L., and P. A. Harp. 1980.** Aquatic macroinvertebrates of the Wapanocca National Wildlife Refuge. Proceedings of the Arkansas Academy of Science 34: 129–130.
- Harris, H. M. 1928.** A monographic study of the hemipterous family Nabidae as it occurs in North America. Entomologica Americana 9: 1–97.
- Harris, H. M. 1937.** Contributions to the South Dakota list of Hemiptera. Iowa State College Journal of Science 11: 169–176.
- Harris, H. M. 1943.** Additions to the South Dakota list of Hemiptera. Journal of the Kansas Entomological Society 16(4): 150–153.
- Harris, H. M., and W. E. Shull. 1944.** A preliminary list of Hemiptera of Idaho. Iowa State College Journal of Science 18(2): 199–208.
- Hart, C. A. 1919.** The Pentatomoidea of Illinois, with keys to the Nearctic genera. Bulletin of the Illinois Natural History Survey 13(7): 157–223.
- Heads, M. 2015.** The relationship between biogeography and ecology: envelopes, models, predictions. Biological Journal of the Linnean Society 115: 456–468.
- Heidemann, O. 1892.** Note on the food-plants of some Capsidae from the vicinity of Washington, D. C. Proceedings of the Entomological Society of Washington 2: 224–226.
- Heidemann, O. 1899.** A new species of Tingitidae. The Canadian Entomologist 31 (10): 301–302. Available from <https://doi.org/10.40398/Ent31301-10>
- Heidemann, O. 1904.** Notes on North American Aradidae, with descriptions of two new species. Proceedings of the Entomological Society of Washington 6(3): 161–165.
- Heidemann, O. 1906.** A new genus and species of the hemipterous family Ceratocombidae from the United States. Proceedings of the Entomological Society of Washington 7: 192–194.
- Heidemann, O. 1909.** New species of Tingitidae and description of a new *Leptoglossus* (Hemiptera-Heteroptera). Bulletin of the Buffalo Society of Natural Sciences 9: 231–238.
- Hendrickson, G. O. 1930.** Studies on the insect fauna of Iowa prairies. Iowa State College Journal of Science 4(2): 49–179.
- Henry, T. J. 1983.** The garden fleahopper genus *Halticus* (Hemiptera: Miridae): resurrection of an old name and key to species of the Western Hemisphere. Proceedings of the Entomological Society of Washington 85(3): 607–611.
- Henry, T. J. 1991.** *Melanotrichus whiteheadi*, a new crucifer-feeding plant bug from the southeastern United States, with new records for the genus and a key to the species of eastern United States (Heteroptera: Miridae: Orthotylinae). Proceedings of the Entomological Society of Washington 93(2): 449–456.
- Henry, T. J. 2010.** New plant bug (Hemiptera: Heteroptera: Miridae) records for West Virginia. Proceedings of the Entomological Society of Washington 112(4): 490–499.
- Henry, T. J., C. V. Covell, Jr., and A. G. Wheeler, Jr. 2005.** An annotated list of the plant bugs, or Miridae (Hemiptera: Heteroptera), of Kentucky. Journal of the New York Entomological Society 113(1–2): 24–76.
- Henry, T. J., and R. C. Froeschner. 1988.** Catalog of the Heteroptera, or True Bugs, of Canada and the Continental United States. E. J. Brill, New York. 958 pp.
- Henry, T. J., and R. C. Froeschner. 1992.** Corrections and additions to the “Catalog of the Heteroptera, or True Bugs, of Canada and the Continental United States.” Proceedings of the Entomological Society of Washington 94: 263–272.
- Henry, T. J., and C. L. Smith. 1979.** An annotated list of the Miridae of Georgia (Hemiptera-Heteroptera). Journal of the Georgia Entomological Society 14: 212–220.
- Herrich-Schäffer, G. A. W. 1847.** Die Wanzenartigen Insecten. Getreu nach der Natur abgebildet und beschrieben. Achter Band. Sechstes Heft. J. L. Lotzbeck'sche Verlagsbuchhandlung, Nürnberg. 30 [101–130] pp.
- Herrich-Schäffer, G. A. W. 1850.** Die Wanzenartigen Insecten. Getreu nach der Natur abgebildet und beschrieben. Neunter und letzter Band. Viertes Heft. J. L. Lotzbeck'sche Verlagsbuchhandlung, Nürnberg. 48 [145–192] pp.
- Herring, J. L. 1966.** The genus *Orius* of the Western Hemisphere (Hemiptera: Anthocoridae). Annals of the Entomological Society of America 59(6): 1093–1109.
- Hewitt, G. B., and Burleson, W. H. 1976.** A preliminary survey of the arthropod fauna of Sainfoin in Central Montana. Bulletin of the Montana Agricultural Experiment Station. 693: 1–11.
- Hidalgo, J., Jr. 1935.** The genus *Abedus* Stal. (Hemiptera, Belostomatidae). The University of Kansas Science Bulletin 22: 493–519.
- Hilsenhoff, W. L. 1984.** Aquatic Hemiptera of Wisconsin. The Great Lakes Entomologist 17(1): 29–50.
- Hoffman, R. L. 1975.** The Insects of Virginia: No. 9. Squash, broad-headed, and scentless plant bugs of Virginia (Hemiptera: Coreoidea: Coreidae, Alydidae, Rhopalidae). Research Division Bulletin 105. Virginia Polytechnic Institute and State University, Blacksburg, VA. 52 pp.

- Hoffman, R. L. 1999.** Six species of bugs new to the Virginia list (Heteroptera: Coreidae, Lygaeidae, Phymatidae, Miridae). *Banisteria* 14: 24–28.
- Hoffman, R. L. 2005.** The occurrence of *Arhapha carolina* Herrich-Schaeffer in Virginia: an inexplicable distributional pattern (Heteroptera: Largidae). *Banisteria* 26: 14–16.
- Howard, W. R. 1872.** The radish bug.—A new insect. (*Nysius raphanus*), n. sp. *The Canadian Entomologist* 4(11):219–220. [Also published the same year in *The Cultivator & Country Gentleman* 37: 507; also in *The Southern Planter & Farmer* 33(?)].
- Howden, H. F., and D. A. Crossley, Jr. 1961.** Insect species on vegetation of the White Oak Lake Bed, Oak Ridge, Tennessee. Oak Ridge National Laboratory, Oak Ridge, TN. 38 pp.
- Huggins, J. A., and G. L. Harp. 1983.** Aquatic macroinvertebrates of the Hiatt Prairie Region, Franklin County, Arkansas. *Journal of the Arkansas Academy of Science* 37: 92–94.
- Hughes, J. H. 1943.** The alfalfa plant bug *Adelphocoris lineolatus* (Goeze) and other Miridae (Hemiptera) in relation to alfalfa-seed production in Minnesota. University of Minnesota Agricultural Experiment Station, Technical Bulletin 161. 80 pp.
- Hungerford, H. B. 1922.** The Nepidae of North America (further studies in aquatic Hemiptera). *The Kansas University Science Bulletin* 14: 425–469.
- Hungerford, H. B. 1924.** A second new *Mesovelina* from the Douglas Lake, Michigan Region (Hemiptera-Mesoveliidae). *Annals of the Entomological Society of America* 17(4): 453–456.
- Hungerford, H. B. 1925.** A study of the *interrupta-harrisii* group of the genus *Arctocorixa* with descriptions of new species (Hemiptera-Corixidae). *Bulletin of the Brooklyn Entomological Society* 20(3): 141–145.
- Hungerford, H. B. 1926a.** Some undescribed Corixidae from Alaska. *Annals of the Entomological Society of America* 19(4): 461–463.
- Hungerford, H. B. 1926b.** Some new records of aquatic Hemiptera from northern Michigan with the description of seven new Corixidae. *Bulletin of the Brooklyn Entomological Society* 21: 194–200.
- Hungerford, H. B. 1926c.** Some *Notonecta* from South America. *Psyche* 33(1): 11–16.
- Hungerford, H. B. 1948.** The Corixidae of the Western Hemisphere (Hemiptera). *The University of Kansas Science Bulletin* 32: 1–827.
- Hussey, R. F. 1922a.** Hemiptera from Berrien County, Michigan. *Occasional Papers of the Museum of Zoology University of Michigan* 118: 1–39.
- Hussey, R. F. 1922b.** On some Hemiptera from North Dakota. *Occasional Papers of the Museum of Zoology, University of Michigan* 115: 1–23.
- Jakovlev, B. 1880.** [Hemiptera-Heteroptera from Russia and adjacent countries]. *Trudy Russkago entomologicheskago obshchestva [=Horae Societatis entomologicae rossicae, variis semonibus in Russia usitatis editae]* 11: 200–220.
- Jansson, A. 2002.** New records of Corixidae (Heteroptera) from northeastern USA and eastern Canada, with one new synonymy. *Entomologica Fennica* 13: 85–88.
- Johnson, C. W. 1927.** Biological survey of the Mount Desert Region. Part I. The insect fauna with reference to the flora and other biological features. *The Wistar Institute of Anatomy and Biology, Philadelphia*. 247 pp.
- Johnston, H. G. 1929.** A partial list of Miridae from Texas (Order Hemiptera). *Bulletin of the Brooklyn Entomological Society* 24: 217–219.
- Johnston, H. G. 1936.** Taxonomic and biological studies on the Miridae of Mississippi (Hemiptera). PhD dissertation, Iowa State College. 280 pp.
- Jones, W. A., Jr., and J. E. McPherson. 1980.** The first report of the occurrence of acanthosomatids in South Carolina. *Journal of the Georgia Entomological Society* 15(3): 286–289.
- Joseph, S. V., and S. K. Braman. 2009.** Influence of plant parameters on occurrence and abundance of arthropods in residential turfgrass. *Journal of Economic Entomology* 102(3): 1116–1122.
- Jubb, G. L., Jr., E. C. Masteller, and A. G. Wheeler, Jr. 1979.** Survey of arthropods in vineyards of Erie County, Pennsylvania: Hemiptera-Heteroptera. *Environmental Entomology* 8(6): 982–986.
- Katovich, S. A., and M. E. Ostry. 1998.** Insects associated with butternut and butternut canker in Minnesota and Wisconsin. *The Great Lakes Entomologist* 31(2): 97–108.
- Kelton, L. A. 1971.** Revision of the species of *Trigonotylus* in North America (Heteroptera: Miridae). *The Canadian Entomologist* 103(5): 685–705.
- Kelton, L. A. 1977.** New species of *Cardiastethus* Fieber and *Melanocoris* Champion, and new records of European *Acompcoris* Reuter and *Temnostethus* Fieber in Canada (Heteroptera: Anthocoridae). *The Canadian Entomologist* 109(2): 243–248.
- Kelton, L. A. 1978.** The insects and arachnids of Canada. Part 4. The Anthocoridae of Canada and Alaska. *Heteroptera: Anthocoridae*.

- Agriculture Canada Research Publication, No. 1639. 101 pp.
- Kelton, L. A. 1980a.** Lectotype designation for *Idolocoris agilis*, and descriptions of three new species of *Dicyphus* Fieber from North America (Heteroptera: Miridae). The Canadian Entomologist 112(4): 387-392.
- Kelton, L. A. 1980b.** The insects and arachnids of Canada, Part 8. The plant bugs of the Prairie Provinces of Canada, Heteroptera: Miridae. Publication 1703. Biosystematics Research Institute, Ottawa. 408 pp.
- Kelton, L. A., and J. D. Lattin. 1968.** On the Saldidae types in the Provancher Collection, and a new name for *Salda coriacea* Uhler (Heteroptera). Le Naturaliste Canadien 95: 661-666.
- Kerzhner, I. M. 1981.** Heteroptera of the family Nabidae. In The Fauna of the U.S.S.R. Academy of Sciences, USSR, Zoological Institute. New Series, No. 124 13: 1-324. [In Russian].
- Kirkaldy, G. W. 1900.** Recent notes on *Hydrometra martini*, Kirk. = *lineata*, Say. The Entomologist 33: 175-176.
- Kirkaldy, G. W. 1902.** Memoir upon the rhynchotal family Capsidae auctt. Transactions of the Entomological Society of London 1902: 243-272.
- Kirkaldy, G. W., and J. R. de la Torre-Bueno. 1909.** A catalogue of American aquatic and semi-aquatic Hemiptera. Proceedings of the Entomological Society of Washington 10(3-4): 173-215. [imprint: 1908; published: 14 June 1909].
- Kirschbaum, C. L. 1856.** Rhynchographische Beiträge. I. Die Capsinen der Gegend von Weisbaden. Jahrbücher des Vereins für Naturkunde im Herzogthum Nassau, Wiesbaden 10: 161-348.
- Knight, H. H. 1923.** Family Miridae (Capsidae), pp. 422-658. In W. E. Britton (ed.), Guide to the Insects of Connecticut. Part IV. The Hemiptera or sucking insects of Connecticut. Connecticut State Geological and Natural History Survey Bulletin 34: 1-807.
- Knight, H. H. 1927a.** Notes on the distribution and host plants of some North American Miridae (Hemiptera). The Canadian Entomologist 59(2): 34-44.
- Knight, H. H. 1927b.** Descriptions of fifteen new species of *Ceratocapsus* (Hemiptera, Miridae). Ohio Journal of Science 27(3): 143-154.
- Knight, H. H. 1928.** Key to the species of *Oncerometopus* with descriptions of five new species (Hemiptera, Miridae). Journal of the New York Entomological Society 36(2): 189-194.
- Knight, H. H. 1941.** The plant bugs, or Miridae, of Illinois. Illinois Natural History Survey Bulletin 22(1): 1-234.
- Knight, H. H. 1968.** Taxonomic review: Miridae of the Nevada Test Site and the western United States. Brigham Young University Science Bulletin, Biological Series 9(3): 1-282.
- Knight, H. H. 1973.** A key to the North American species of *Pilophorus* Hahn with descriptions of new species (Hemiptera, Miridae). Iowa State Journal of Research 48: 129-145.
- Knight, H. H., and W. L. McAtee. 1929.** Bugs of the family Miridae of the District of Columbia and vicinity. Proceedings of the U.S. National Museum 75(13): 1-27.
- Knowlton, G. F. 1932.** Notes on Utah Hemiptera. The Canadian Entomologist 64: 166-167.
- Knowlton, G. F. 1936.** The insect fauna of Utah (from the standpoint of an economic entomologist). Proceedings of the Utah Academy of Sciences, Arts and Letters 13: 249-262.
- Koch, R. L., D. A. Rider, P. P. Tinerella, and W. A. Rich. 2014.** Stink bugs (Hemiptera: Heteroptera: Pentatomidae) of Minnesota: an annotated checklist and new state records. The Great Lakes Entomologist 47(3-4): 171-185.
- Kormilev, N. A. 1966.** Notes on Aradidae in the U.S. National Museum, IV (Hemiptera: Heteroptera). Proceedings of the United States National Museum 119(3548): 1-25.
- Kormilev, N. A. 1982.** On *Mezira granulata* (Say) group (Hemiptera: Aradidae). Journal of Natural History 16: 775-779.
- Kormilev, N. A. 1987.** Notes on North and Central American *Lophoscotus* spp. (Hemiptera: Phymatidae, Macrocephalinae). Proceedings of the Entomological Society of Washington 89(4): 701-705.
- Kormilev, N. A. 1990.** Notes on American Phymatidae, with description of a new species of *Phymata* Latreille. Anales del Instituto de Biología de Universidad Nacional Autónoma de México, Serie Zoología 61(1): 99-106.
- Kumar, R., R. J. Lavigne, J. E. Lloyd, and R. E. Pfadt. 1976.** Insects of the Central Plains Experiment Range, Pawnee National Grassland. University of Wyoming Agricultural Experiment Station, Science Monograph 32: 1-74.
- Kurczewski, F. E. 1967.** A note on the nesting behavior of *Solierella inermis* (Hymenoptera: Sphecidae, Larrinae). Journal of the Kansas Entomological Society 40(2): 203-208.
- La Rivers, I. 1970.** A new subspecies of *Pelocoris femoratus* (Palisot-Beauvois) from Florida (Hemiptera: Naucoridae). Biological Society of Nevada Occasional Papers 26: 1-4.
- Lago, P. K., and S. Testa, III. 2000.** The terrestrial Hemiptera and auchenorrhynchous Homoptera of Point Clear Island and surrounding marshlands, Hancock County, Mis-

- Mississippi. *Journal of the Mississippi Academy of Sciences* 45(3): 184–193.
- Lambdin, P. L., J. F. Grant, G. J. Wiggins, and A. Saxton. 2003.** Diversity of the true bugs (Hemiptera: Heteroptera) on Arnold Air Force Base, Tullahoma, Tennessee. *Journal of the Tennessee Academy of Science* 78(3): 76–84.
- Lampe, L., R. M. Mahard, and W. P. Hahnert. 1970.** Necrology, Walter Valentine Balduf. *Ohio Journal of Science* 70(4): 239.
- Larivière, M.-C., and A. Laroche. 1991.** Notes on the distribution and bionomics of *Myodocha serripes* (Heteroptera: Lygaeidae). *Entomological News* 102(1): 31–32.
- Lattin, J. D. 1964.** The Scutellerinae of America north of Mexico (Hemiptera: Heteroptera: Pentatomidae). Ph.D. dissertation, University of California, Berkeley. 350 pp.
- Lattin, J. D. 1999.** Dead leaf clusters as habitats for adult *Calliodis temnostethoides* and *Cardiastethus luridellus* and other anthocorids (Hemiptera: Heteroptera: Anthocoridae). *The Great Lakes Entomologist* 32(1–2): 33–38.
- Lattin, J. D. 2000.** Life history of *Ceratocombus vagans* (Hemiptera: Heteroptera: Ceratocombidae), with notes on the immature stages. *The Great Lakes Entomologist* 33(2): 131–139.
- Lattin, J. D. 2004.** *Solenonotus angustatus* Poppius, a synonym of *Dufouriellus ater* Fieber (Hemiptera: Heteroptera: Anthocoridae). *Proceedings of the Entomological Society of Washington* 106(3): 722–724.
- Lattin, J. D. 2005.** *Dufouriellus ater* (Puton), *Macrotrachelia nigronitens* (Stal), and *Xylocoris (Arrostellus) flavipes* (Reuter) (Hemiptera: Heteroptera: Cimicoidea: Anthocoridae): first records from the Hawaiian Islands. *Proceedings of the Entomological Society of Washington* 107(2): 466–468.
- Lattin, J. D. 2007.** The Lasiophilidae, Lyctocoridae and Anthocoridae (Hemiptera: Heteroptera) of the Hawaiian Islands: native or introduced? *Proceedings of the Entomological Society of Washington* 109(1): 75–80.
- Lattin, J. D., and N. L. Stanton. 1992.** A review of the species of Anthocoridae (Hemiptera: Heteroptera) found on *Pinus contorta*. *Journal of the New York Entomological Society* 100(3): 424–479.
- Lee, L. A., and H. E. Barton. 1983.** Distribution and seasonal occurrence of the Scutelleridae, Corimelaenidae and Cydnidae of Arkansas. *Proceedings of the Arkansas Academy of Science* 37: 42–46.
- Linnaeus, C. 1758.** *Systema Naturae per regna tria naturae, secundum classes, ordines, genera, species cum characteribus, differentiis, synonymis, locis. Tomus I. Editio decima, reformata. Laurentii Salvii, Homiae.* 823 pp.
- Lugger, O. 1900.** Bugs (Hemiptera) injurious to our cultivated plants. University of Minnesota Agricultural Experiment Station, Entomological Division, Bulletin No. 69. 259 pp., 15 pl.
- MacGillivray, A. D., and C. O. Houghton. 1903.** A list of insects taken in the Adirondack Mountains, N. Y.—II. *Entomological News* 14: 262–265.
- Malloch, J. R. 1919.** Subfamily Thyreocorinae [and] Addenda, pp. 206–219. In C. A. Hart (ed.), *The Pentatomoidea of Illinois, with keys to the Nearctic genera. Bulletin of the Illinois Natural History Survey* 13(7): 157–223.
- Maw, H. E. L., R. G. Footitt, K. G. A. Hamilton, and G. G. E. Scudder. 2000.** Checklist of the Hemiptera of Canada and Alaska. National Research Council of Canada, Ottawa. 220 pp.
- McAtee, W. L. 1919.** Key to the Nearctic species of Piesmidae (Heteroptera). *Bulletin of the Brooklyn Entomological Society* 14: 80–93.
- McAtee, W. L., and J. R. Malloch. 1925.** Revision of bugs of the family Cryptostemmatidae in the collection of the United States National Museum. *Proceedings of the United States National Museum* 67: 1–42.
- McDunnough, J. 1925.** Notes on *Saldula obscura* Prov. with description of a new species (Hemiptera). *The Canadian Entomologist* 57(10): 257–260.
- McPherson, J. E. 1977.** Three new scutelleroid state records for Illinois (Hemiptera). *Transactions of the Illinois State Academy of Science* 70(3–4): 388–390.
- McPherson, J. E. 1979.** A revised list of the Pentatomoidea of Illinois (Hemiptera). *The Great Lakes Entomologist* 12(3): 91–98.
- McPherson, J. E. 1982.** The Pentatomoidea (Hemiptera) of Northeastern North America with emphasis on the fauna of Illinois. Southern Illinois University Press, Carbondale. 240 pp.
- McPherson, J. E., R. J. Packauskas, R. W. Sites, S. J. Taylor, C. S. Bundy, J. D. Bradshaw, and P. L. Mitchell. 2011.** Review of *Acanthocephala* (Hemiptera: Heteroptera: Coreidae) of America north of Mexico with a key to species. *Zootaxa* 2835: 30–40.
- McPherson, J. E., and B. C. Weber. 1981.** Seasonal flight patterns of Hemiptera in a North Carolina black walnut plantation. 2. Coreoidea. *The Great Lakes Entomologist* 14(1): 11–13.
- McPherson, J. E., and B. C. Weber. 1990.** Seasonal flight patterns of Hemiptera (excluding Miridae) in a southern Illinois black walnut plantation. *The Great Lakes Entomologist* 23(2): 105–120.

- McPherson, J. E., B. C. Weber, and T. J. Henry. 1983.** Seasonal flight patterns of Hemiptera in a North Carolina black walnut plantation. 7. Miridae. *The Great Lakes Entomologist* 16(2): 35–42.
- Montandon, A. L. 1893.** Notes on American Hemiptera Heteroptera. *Proceedings of the United States National Museum* 16(924): 45–52.
- Montandon, A. L. 1908.** Espèces nouvelles ou peu connues du genre *Geocoris* Fall. *Bulletin de la Société Sciences de Bucarest-Roumanie* 16: 214–234.
- Moore, G. A. 1907.** List of Hemiptera taken at Como, Quebec. *The Canadian Entomologist* 39(5): 161–163.
- Moore, G. A. 1944.** A list of Hemiptera taken at Hudson Heights, Quebec. *The Canadian Entomologist* 76(2): 40–44.
- Moore, G. A. 1950.** Catalogue des Hémiptères de la province de Québec. *Le Naturaliste Canadien* 77(9–10): 231–271.
- Morihara, D. K., and E. U. Balsbaugh, Jr. 1976.** Phytogamous insects collected on musk thistle, *Carduus nutans*, in southeastern South Dakota. *Environmental Entomology* 5(4): 692–696.
- Oatman, E. R., E. F. Legner, and R. F. Brooks. 1964.** An ecological study of arthropod populations on apple in northeastern Wisconsin: insect species present. *Journal of Economic Entomology* 57(6): 978–983.
- OBIC [Oregon Biodiversity Information Center]. 2016.** Rare, threatened and endangered species of Oregon. Institute for Natural Resources, Portland State University, Portland, OR. 130 pp.
- Olivier, A. G. 1811.** *Encyclopedie methodique. Histoire naturelle. Hemiptera.* Volume 8. Agasse, Paris. 722 pp.
- ONHC [Oregon Natural Heritage Information Center]. 2007.** Rare, threatened and endangered species of Oregon. Oregon Natural Heritage Information Center, Oregon State University, Portland, OR. 101 pp.
- ONHP [Oregon Natural Heritage Program]. 2001.** Rare, threatened and endangered plants and animals of Oregon. Oregon Natural Heritage Program, Portland, OR. 98 pp.
- Osborn, H. 1892.** Catalogue of the Hemiptera of Iowa. *Proceedings of the Iowa Academy of Sciences* 1: 120–131.
- Osborn, H. 1893.** Notes on the distribution of Hemiptera. *Proceedings of the Iowa Academy of Sciences* 1(4): 120–123.
- Osborn, H. 1898.** Additions to the list of Hemiptera of Iowa, with descriptions of new species. *Proceedings of the Iowa Academy of Sciences* 5: 232–247.
- Osborn, H. 1900.** Remarks on the Hemipterous fauna of Ohio with a preliminary records of species. *Report of the Ohio State Academy of Science* 8: 60–79.
- Osborn, H., and C. J. Drake. 1915.** Additions and notes on the Hemiptera-Heteroptera of Ohio. *The Ohio Naturalist* 15(7): 501–508.
- Osborn, H., and C. J. Drake. 1916.** The Tingitoidae of Ohio. *The Ohio State University Bulletin* 20(35): 217–251. [also as *Ohio Biological Survey Bulletin* 8, Volume II, No. 4].
- Packauskas, R. J. 2010.** Catalog of the Coreidae, or Leaf-footed Bugs, of the New World. *Fort Hays Studies, Fourth Series, Number* 5. 270 pp.
- Paiero, S. M., S. A. Marshall, and K. G. A. Hamilton. 2003.** New records of Hemiptera from Canada and Ontario. *Journal of the Entomological Society of Ontario* 134: 115–129.
- Panzer, G. W. F. 1797.** Hefte XLIX–LX, pp. I–XIV. *In* *Faunae Insectorum Germanicae initia oder Deutschlands Insecten, Hemiptera.* Felssecker, Nürnberg. [dated from Evenhuis 1997].
- Parshley, H. M. 1914.** List of the Hemiptera-Heteroptera of Maine. *Psyche* 21(5): 139–149.
- Parshley, H. M. 1917.** Fauna of New England. 14. List of the Hemiptera-Heteroptera. *Occasional Papers of the Boston Society of Natural History* 7: 1–125.
- Parshley, H. M. 1918.** [New species]. *In* Gibson, E. H. *The genus Corythucha* Stal (Tingidae; Heteroptera). *Transactions of the American Entomological Society* 44(1): 69–104.
- Parshley, H. M. 1919.** On some Hemiptera from western Canada. *Occasional Papers of the Museum of Zoology, University of Michigan* 71: 1–35.
- Parshley, H. M. 1921.** Essay on the American species of *Aradus* (Hemiptera). *Transactions of the American Entomological Society* 47: 1–106, 7 pls.
- Parshley, H. M. 1922a.** A change of name in the Saldidae (Hemiptera). *Entomological News* 33(3): 71.
- Parshley, H. M. 1922b.** Report on a collection Hemiptera-Heteroptera from South Dakota. *South Dakota State College, Technical Bulletin* No. 2. 22 pp.
- Parshley, H. M. 1923a.** Records of Nova Scotian Hemiptera-Heteroptera. *Proceedings of the Acadian Entomological Society* 8: 102–108.
- Parshley, H. M. 1923b.** Families Neididae, Aradidae, Coreidae, Alydidae, Corizidae, Pentatomidae, Cydnidae and Scutelleridae, pp. 737–783. *In* W. E. Britton (ed.), *Guide to the Insects of Connecticut. Part IV. The Hemiptera or sucking insects of Connecticut.* Connecticut State Geological and Natural

- History Survey Bulletin No. 34. State of Connecticut, Hartford, CT. 807 pp.
- Polhemus, D. A. 1994.** An annotated checklist of the plant bugs of Colorado (Heteroptera: Miridae). *The Pan-Pacific Entomologist* 70(2): 122–147.
- Polhemus, J. T. 1997.** New state and U. S. records and other distributional notes for Heteroptera (Insecta). *Entomological News* 108(4): 305–310.
- Polhemus, J. T., and H. C. Chapman. 1979.** Family Hydrometridae/marsh treaders, water measurers, pp. 43–45. *In* A. S. Menke (ed.), *The Semiaquatic and Aquatic Hemiptera of California* (Heteroptera: Hemiptera). *Bulletin of the California Insect Survey* 21: 1–166.
- Poppius, B. 1914.** Einige neue Miriden-Gattungen und Arten aus Nord-Amerika und Cuba. *Annales de la Société Entomologique de Belgique* 58: 255–261.
- Provancher, L. 1872.** Description de plusieurs Hémiptères nouveaux. Hétéroptères. *Le Naturaliste Canadien* 4: 103–108.
- Pupedis, R. J. 1997.** Aquatic insects of the West River and salt marshes of Connecticut. *Environmental Studies Bulletin* 100: 162–177.
- Reisen, W. K. 1975.** The ecology of Honey Creek, Oklahoma: spatial and temporal distributions of the macroinvertebrates. *Proceedings of the Oklahoma Academy of Science* 55: 25–31.
- Reuter, O. M. 1871.** Acanthiidae americanae descriptae. Öfversigt af Kongliga Svenska Vetenskaps-Akademiens Förhandlingar 28(5): 557–567.
- Reuter, O. M. 1872.** Nabidae novae et minus cognitae. Bidrag till Nabidernas kändedom af Öfversigt Kongliga Svenska Vetenskaps-Akademiens Förhandlingar 29(6): 79–96.
- Reuter, O. M. 1874.** Remarques synonymiques sur quelques Hétéroptères. *Annales de la Société Entomologique de France, Cinquième Série* 4: 559–566.
- Reuter, O. M. 1876.** Capsinae ex America boreali in Museo Holmiensi asservatae, descriptae. Öfversigt af Kongliga Svenska Vetenskaps-Akademiens Förhandlingar 32(9): 59–92.
- Reuter, O. M. 1893.** [Nouvelles espèces de Capsidae]. *In* E. Bergroth, *Mission scientifique de M. Ch. Alluaud aux Iles Séchelles* (Mars, Avril, Mai 1892). Hétéroptères. *Revue d'Entomologie* 12: 197–209.
- Reuter, O. M. 1909.** Bemerkungen über nearktische Capsiden nebst Beschreibung neuer Arten. *Acta Societatis Scientiarum Fennicae* 36(2): 1–86.
- Richmond, E. A. 1962.** The fauna and flora of Horn Island, Mississippi. *Gulf Research Reports* 1(2): 59–106.
- Ricklefs, R. E., and D. G. Jenkins. 2011.** Biogeography and ecology: towards the integration of two disciplines. *Philosophical Transactions of the Royal Society B* 366: 2438–2448.
- Rider, D. A. 2012.** The Heteroptera (Hemiptera) of North Dakota I: Pentatomomorpha: Pentatomoidea. *The Great Lakes Entomologist* 45(3–4): 312–380.
- Roble, S. M., and R. L. Hoffman. 2000.** Three true bugs new to the Virginia fauna, including the first record of the family Schizopteridae (Heteroptera). *Banisteria* 16: 41–45.
- Roch, J.-F. 2007.** Entomofaune du Québec. Liste des Punaises du Québec et des Régions Adjacentes (Hemiptera: Heteroptera). Document Faunique 27. Version 1.0. Entomofaune du Québec, Inc., Saguenay. 41 pp.
- Roch, J.-F. 2017.** Entomofaune du Québec. Liste des Punaises du Québec et des Régions Adjacentes (Hemiptera: Heteroptera). Document Faunique 27. Version 2.2. Entomofaune du Québec, Inc., Saguenay. 40 pp.
- Roch, J.-F. 2020.** Entomofaune du Québec. Liste des Punaises du Québec et des Régions Adjacentes (Hemiptera: Heteroptera). Document Faunique 27. Version 2.3. Entomofaune du Québec, Inc., Saguenay. 41 pp.
- Roemhild, G. 1976.** Aquatic Heteroptera (true bugs) of Montana. Montana State University, Montana Agricultural Experiment Station Research Report 102: 1–70.
- Ronquist, F., and I. Sanmartín. 2011.** Phylogenetic methods in biogeography. *Annual Review of Ecology, Evolution, and Systematics* 42: 441–464.
- Sahlberg, R. F. 1842.** Nova species generis *Phytocoris* (Fallén) ex ordine Hemipterorum descripta. *Acta Societatis Scientiarum Fennicae* 1(2): 411–412.
- Say, T. 1824.** [Descriptions of insects]. *In* Keatings' Narrative of an Expedition to the source of St. Peter's River, Lake Winnepuck, Lake of the Woods, under command of Major Long 1823, 2: 268–378.
- Say, T. 1825.** Descriptions of new hemipterous insects collected in the expedition to the Rocky Mountains, performed by order of Mr. Calhoun, Secretary of War, under command of Major Long. *Journal of the Academy of Natural Sciences of Philadelphia* 4: 307–345.
- Say, T. 1831a.** Descriptions of new species of heteropterous Hemiptera of North America. *New Harmony, Indiana*. 39 pp.
- Say, T. 1831b.** Descriptions of new species of North American insects found in Louisiana

- by Joseph Barabino. New Harmony, Indiana. 19 pp.
- Say, T. 1832.** New species of North American insects, found by Joseph Barabino, chiefly in Louisiana. School Press, New Harmony, Indiana. 16 pp.
- Schaefer, K. F., and W. A. Drew. 1964.** Check list of aquatic and semi-aquatic Hemiptera (Insecta) of Oklahoma. The Southwestern Naturalist 9(2): 99–101.
- Schaefer, K. F., and W. A. Drew. 1967.** Hebridae (Hemiptera) of Oklahoma. The Southwestern Naturalist 12(4): 487.
- Schaefer, C. W., and J. C. Schaffner. 1994.** *Alydus calcaratus* in North America (Hemiptera: Alydidae). Proceedings of the Entomological Society of Washington 96(2): 314–317.
- Schaffner, J. C. 1964.** A taxonomic revision of certain genera of the tribe Alydini (Hemiptera: Coreidae). Ph.D. dissertation, Iowa State University. 343 pp.
- Schilling, P. S. 1829.** Hemiptera Heteroptera Silesiae systematicè disposuit. Beiträge zur Entomologie 1: 34–92.
- Schuh, R. T. 1967.** The shore bugs (Hemiptera: Saldidae) of the Great Lakes Region. Unpublished Master's Thesis, Michigan State University. 61 pp.
- Schuh, R. T., and M. D. Schwartz. 1985.** Revision of the plant bug genus *Rhinacloa* Reuter with a phylogenetic analysis (Hemiptera: Miridae). Bulletin of the American Museum of Natural History 179(4): 379–470, 258 pl.
- Schuh, R. T., and M. D. Schwartz. 1988.** Revision of the New World Pilophorini (Hemiptera: Miridae: Phylinae). Bulletin of the American Museum of Natural History 187(2): 101–201, 35 pl.
- Schuh, R. T., and C., Weirauch. 2020.** True Bugs of the World (Hemiptera: Heteroptera), Classification and Natural History (Second Edition). Siri Scientific Press, Monograph Series Volume 8, Manchester, United Kingdom. 767 pp., 3 pl.
- Schwartz, M. D., and G. G. E. Scudder. 2000.** Miridae (Hemiptera) new to Canada, with some taxonomic changes. Journal of the New York Entomological Society 108(3–4): 248–267.
- Schwartz, M. D., and G. G. E. Scudder. 2003.** Seven new species of Miridae (Hemiptera) from British Columbia and Alaska and synonymy of *Adelphocoris superbus* (Uhler). Journal of New York Entomological Society 111(2): 65–95.
- Schwitzgebel, R. B., and D. A. Wilbur. 1942.** Lepidoptera, Hemiptera and Homoptera associated with ironweed, *Vernonia interior* Small in Kansas. Transactions of the Kansas Academy of Science 45: 195–202.
- Scott, W. M., and W. F. Fiske. 1902.** Jarring for the curculio on an extensive scale in Georgia, with a list of the insects caught. United States Department of Agriculture, Division of Entomology Bulletin (New Series) 31: 24–36.
- Scudder, G. G. E. 1961.** Some Heteroptera new to British Columbia. Proceedings of the Entomological Society of British Columbia 58: 26–29.
- Scudder, G. G. E. 1986.** Additional Heteroptera new to British Columbia. Journal of the Entomological Society of British Columbia 83: 63–65.
- Scudder, G. G. E. 1997.** True bugs (Hemiptera) of the Yukon, pp. 241–336. In H. V. Danks, and J. A. Downes (eds.), Insects of the Yukon. Biological Survey of Canada (Terrestrial Arthropods), Ottawa. 1034 pp.
- Scudder, G. G. E. 2007.** Two alien Heteroptera (Hemiptera) new to Canada. Journal of the Entomological Society of British Columbia 104: 81–84.
- Scudder, G. G. E. 2008.** New provincial and state records for Heteroptera (Hemiptera) in Canada and the United States. Journal of the Entomological Society of British Columbia 105: 3–18.
- Scudder, G. G. E. 2010a.** *Melacoryphus admirabilis* (Uhler) (Hemiptera: Lygaeidae) new to Canada, with additional Canadian provincial records for other Heteroptera. Journal of the Entomological Society of British Columbia 107: 3–9.
- Scudder, G. G. E. 2010b.** New distribution records for United States Lygaeoidea (Hemiptera: Heteroptera). Journal of the Entomological Society of British Columbia 107: 83–84.
- Scudder, G. G. E. 2012.** Additional provincial and state records for Heteroptera (Hemiptera) in Canada and the United States. Journal of the Entomological Society of British Columbia 109: 55–69.
- Scudder, G. G. E. 2018.** Corrections for the Hemiptera: Heteroptera of Canada and Alaska. Journal of the Entomological Society of British Columbia 115: 25–43.
- Scudder, G. G. E., and D. S. Sikes. 2014.** Alaskan Heteroptera (Hemiptera): new records, associated data, and deletions. Zootaxa 3852(3): 373–381.
- Sheeley, R. D., and T. R. Yonke. 1977.** Biological notes on seven species of Missouri tingids (Hemiptera: Tingidae). Journal of the Kansas Entomological Society 50(3): 342–356.
- Sheppard, L. 2017, April 3.** “INHS employee linked to a famous entomologist from the

- 19th century.” Prairie Research Institute. Available from <https://blogs.illinois.edu/>
- Sites, R. W., and J. T. Polhemus. 1994.** *Nepidae* (Hemiptera) of the United States and Canada. *Annals of the Entomological Society of America* 87(1): 27–42.
- Skvarla, M. J., D. M. Fisher, and A. P. G. Dowling. 2016.** Arthropods of Steel Creek, Buffalo National River, Arkansas. III. Heteroptera (Insecta: Hemiptera). *Biodiversity Data Journal* 4: e7607, 1–13. Available from <https://doi.org/10.3897/BDJ.4.e7607>
- Slater, J. A. 1954.** Notes on the genus *Labops* Burmeister in North America, with the descriptions of three new species (Hemiptera: Miridae). *Bulletin of the Brooklyn Entomological Society* 49: 51–65.
- Slosson, A. T. 1895.** Additional list of insects taken in alpine region of Mt. Washington. *Entomological News* 6: 316–321.
- Smith, C. C. 1940.** Biotic and physiographic succession on abandoned eroded farmland. *Ecological Monographs* 10(3): 421–484.
- Smith, M. W., D. C. Arnold, R. D. Eikenbary, N. R. Rice, A. Shiferaw, B. S. Cheary, and B. L. Carroll. 1996.** Influence of ground cover on phytophagous and saprophagous arthropods in pecan trees. *Southwestern Entomologist* 21(3): 303–316.
- Snodgrass, G. L., T. J. Henry, and W. P. Scott. 1984.** An annotated list of the Miridae (Heteroptera) found in the Yazoo-Mississippi Delta and associated areas in Arkansas and Louisiana. *Proceedings of the Entomological Society of Washington* 86(4): 845–860.
- Snow, F. H. 1904.** Lists of Coleoptera, Lepidoptera, Diptera and Hemiptera collected in Arizona by the entomological expeditions of the University of Kansas in 1902 and 1903. *Kansas University Science Bulletin* 2(12): 323–350.
- Snow, F. H. 1906.** Some results of the University of Kansas entomological expeditions to Arizona in 1904 and 1905. *Transactions of the Kansas Academy of Science* 20(1): 155–181.
- Snow, F. H. 1907.** Results of the entomological collecting expedition of the University of Kansas to Pima County, Arizona, in June and July, 1906. *Transactions of the Kansas Academy of Science* 20(2): 140–164.
- Spooner, C. S. 1938.** The phylogeny of the Hemiptera, based on a study of the head capsule. Contribution from the Entomological Laboratories of the University of Illinois No. 198. *Illinois Biological Monographs* 16(3): 1–102, 24 pl.
- Stål, C. 1859.** Hemiptera. Species novas descripsit. Kongliga Svenska Fregattens Eugenies Resa Omkring Jorden. III. (Zoologi, Insekter). Pp. 219–298, pl. 3–4.
- Stål, C. 1862.** *Hemiptera mexicana*. *Stettin Entomologische Zeitung* 23(7–9): 289–325.
- Stål, C. 1870.** *Enumeratio Hemipterorum: Bidrag till en förteckning öfver alla hittills kända Hemiptera, jemte systematiska meddelanden. Part 1.* Kongliga Sevenska Vetenskaps-Akademiens Handlingar 9(1): 1–232.
- Stål, C. 1873.** *Enumeratio Hemipterorum: Bidrag till en förteckning öfver alla hittills kända Hemiptera, jemte systematiska meddelanden. Part 3.* Kongliga Sevenska Vetenskaps-Akademiens Handlingar 11(2): 1–163.
- Stål, C. 1874.** *Enumeratio Hemipterorum: Bidrag till en förteckning öfver alla hittills kända Hemiptera, jemte systematiska meddelanden. Part 4.* Kongliga Sevenska Vetenskaps-Akademiens Handlingar 12(1): 1–186.
- Stehlik, J. L., and P. Kment. 2011.** Redescription of *Pararhapha* and review of *Arhapha* (Hemiptera: Heteroptera: Largidae) of America north of Mexico. *Zootaxa* 3058: 35–54.
- Stoner, A., D. E. Bryan, and W. A. Drew. 1962.** A partial inventory of insect populations in tallgrass prairie pastures in north central Oklahoma. *Proceedings of the Oklahoma Academy of Science* 42: 143–157.
- Stoner, D. 1926.** Pentatomoidea from Western Canada. *The Canadian Entomologist* 58(2): 28–30.
- Strickland, E. H. 1953.** An annotated list of the Hemiptera (s. l.) of Alberta. *The Canadian Entomologist* 85(6): 193–214.
- Suarez, A. V., and N. D. Tsutsui. 2004.** The value of museum collections for research and society. *BioScience* 54(1): 66–74.
- Summers, H. E. 1891.** The true bugs, or Heteroptera, of Tennessee. *Bulletin of the Agricultural Experiment Station of the University of Tennessee, State Agricultural and Mechanical College* 4(3): 75–96.
- Swanson, D. R. 2011a.** New state records and distributional notes for some assassin bugs of the continental United States (Heteroptera: Reduviidae). *The Great Lakes Entomologist* 44(3–4): 117–138.
- Swanson, D. R. 2011b.** A synopsis of the Coreoidea (Heteroptera) of Michigan. *The Great Lakes Entomologist* 44(3–4): 139–162.
- Swanson, D. R. 2016.** A synopsis of the Cimicoidea (Heteroptera) of Michigan. *The Great Lakes Entomologist* 49(3–4): 115–145.
- Swanson, D. R. 2018.** New state records for some Pentatomomorpha (Heteroptera) of the United States. *The Great Lakes Entomologist* 51(3–4): 42–53.
- Swanson, D. R. 2019.** New state records for some predatory and parasitic true bugs (Heteroptera: Cimicomorpha) of the Unit-

- ed States. *The Great Lakes Entomologist* 52(3–4): 59–70.
- Swanson, D. R. 2020a.** New state records for some flat bugs (Heteroptera: Aradidae) of the United States. *The Great Lakes Entomologist* 53(3–4): 105–108.
- Swanson, D. R. 2020b.** A synopsis of the flat bugs (Heteroptera: Aradidae) of Michigan. *The Great Lakes Entomologist* 53(3–4): 83–104.
- Swanson, D. R., S. J. Taylor, and S. W. Heads. 2017.** Nine true bugs (Heteroptera) newly-discovered in Illinois. *Zootaxa* 4269(4): 571–585. Available from <https://doi.org/10.11646/zootaxa.4269.4.10>
- Swederus, N. S. 1787.** Et nytt genus och femtio nya species af insecter. *Kongliga Vetenskaps-Akademiens Nya Handlingar* 8: 181–201.
- Taber, S. W. 2008.** Remarks on the rarely collected hemipteran *Ceratocombus vagans* McAtee and Malloch (Hemiptera: Ceratocombidae). *The Great Lakes Entomologist* 41(1–2): 49–59.
- Taylor, S. J., and S. A. Gil. 2009.** State records, confirmations, and habitats of Aradidae (Hemiptera: Heteroptera) from Louisiana, U.S.A. *The Florida Entomologist* 92(2): 199–207.
- Taylor, S. J., and J. E. McPherson. 1989.** State records and confirmations of Arkansas flat bugs (Heteroptera: Aradidae). *The Great Lakes Entomologist* 22(1): 19–23.
- Thomas, D. B. 1991.** The Acanthosomatidae (Heteroptera) of North America. *The Pan-Pacific Entomologist* 67(3): 159–170.
- Thomas, D. B., Jr., and F. G. Werner. 1981.** Grass feeding insects of western ranges: an annotated checklist. The University of Arizona Agricultural Experiment Station Technical Bulletin, No. 243. 50 pp.
- Tinerella, P. P., and R. W. Gundersen. 2005.** The Water Boatmen (Insecta: Heteroptera: Corixidae) of Minnesota. *Schafer-Post Series: North Dakota Insects*, Publication No. 23. 119 pp.
- Tinerella, P. P., S. J. Taylor, and J. E. McPherson. 2009.** New records and a checklist of aquatic true bugs (Heteroptera: Nepomorpha) from Illinois. *Journal of the Kansas Entomological Society* 82(4): 293–299.
- Todd, E. L. 1954.** New species of *Nerthra* from California (Hemiptera: Gelastocoridae). *The Pan-Pacific Entomologist* 30(2): 113–117.
- Torre-Bueno, J. R. de la. 1908.** Hemiptera Heteroptera of Westchester County, N.Y. *Journal of the New York Entomological Society* 16(4): 223–238.
- Torres-Miller, L. 1989.** New records of lace bugs from West Virginia (Hemiptera: Tingidae). *Insecta Mundi* 3: 10.
- Tucker, E. S. 1907a.** Contributions towards a catalogue of the insects of Kansas. Results of personal collecting. *Transactions of the Kansas Academy of Science* 20(2): 190–201.
- Tucker, E. S. 1907b.** List of Hemiptera-Heteroptera, pp. 52–62. *In* Some results of desultory collecting of insects in Kansas and Colorado. *Kansas University Science Bulletin* 4(2): 51–112.
- Tugwell, P., E. P. Rouse, and R. G. Thompson. 1973.** Insects in soybeans and a weed host (*Desmodium* sp.). *Arkansas Agricultural Experiment Station, Report Series* 214: 1–18.
- Uhler, P. R. 1862.** Hemiptera, pp. 11–12. *In* T. W. Harris (ed.), *A treatise on some of the insects injurious to vegetation*. Third edition. William White, Boston.
- Uhler, P. R. 1871.** Notices of some Heteroptera in the collection of Dr. T. W. Harris. *Proceedings of the Boston Society of Natural History* 14: 93–109.
- Uhler, P. R. 1872.** Notices of the Hemiptera of the Western Territories of the United States, chiefly from the surveys of Dr. F. V. Hayden. *Preliminary Report of the United States Geological Survey of Montana and Portions of Adjacent Territories; being a Fifth Annual Report of Progress* 1872(4): 392–423.
- Uhler, P. R. 1875.** Chapter XII. Report upon the collections of Hemiptera made in portions of Nevada, Utah, California, Colorado, New Mexico, and Arizona, during the years 1871, 1873, and 1874, pp. 828–842, pl. 42. *In* G. M. Wheeler (ed.), *Report upon Geographical and Geological Explorations and Surveys West of the One Hundredth Meridian*. Vol. V. Zoology. United States Army, Engineer Department, Washington. 1021 pp.
- Uhler, P. R. 1876.** List of Hemiptera of the region west of the Mississippi River, including those collected during the Hayden explorations of 1873. *Bulletin of the United States Geological and Geographical Survey of the Territories* 1(5): 267–361.
- Uhler, P. R. 1877.** Report on the insects collected by P. R. Uhler during the explorations of 1875, including monographs of the families Cydnidae and Saldae, and the Hemiptera collected by A. S. Packard, Jr., M.D. *Bulletin of the United States Geological and Geographical Survey of the Territories* 3: 355–475.
- Uhler, P. R. 1887a.** Observations on North American Capsidae with descriptions of new species. *Entomologica Americana* 3: 67–72.
- Uhler, P. R. 1887b.** Observations on some Capsidae with descriptions of a few new species. *Entomologica Americana* 3: 29–35.
- Uhler, P. R. 1890.** Observations on North American Capsidae, with descriptions of new

- species. No. 5. Transactions of the Maryland Academy of Sciences 1: 73–88.
- Uhler, P. R. 1891.** Observations on some remarkable forms of Capsidae. Proceedings of the Entomological Society of Washington 2(1): 119–123.
- Uhler, P. R. 1893.** Summary of the collection of Hemiptera secured by Mr. E. A. Schwarz in Utah. Proceedings of the Entomological Society of Washington 2(4): 366–385.
- Uhler, P. R. 1895.** [Species descriptions]. In C. P. Gillette, and C. F. Baker. A preliminary list of the Hemiptera of Colorado. Colorado Agricultural Experiment Station Bulletin 31 (Tech. Ser. No. 1): 1–137.
- Usinger, R. L. 1936.** Studies in the American Aradidae with descriptions of new species (Hemiptera). Annals of the Entomological Society of America 29(3): 490–516. Available from <https://doi.org/10.1093/aesa/29.3.490>
- Usinger, R. L. 1946.** Notes and descriptions of *Ceratocombus* (Hemiptera: Cryptostemmatidae). Proceedings of the Hawaiian Entomological Society 12(3): 633–636.
- Van Duzee, E. P. 1904.** Annotated list of the Pentatomidae recorded from America north of Mexico, with descriptions of some new species. Transactions of the American Entomological Society 30: 1–80.
- Van Duzee, E. P. 1909a.** Observations on some Hemiptera taken in Florida in the spring of 1908. Bulletin of the Buffalo Society of Natural Sciences 9(2): 149–230.
- Van Duzee, E. P. 1909b.** Synonymical and descriptive notes on North American Heteroptera. The Canadian Entomologist 41(10): 369–375.
- Van Duzee, E. P. 1914.** A preliminary list of the Hemiptera of San Diego County, California. Transactions of the San Diego Society of Natural History 2: 1–57.
- Van Duzee, E. P. 1915.** New genera and species of North American Hemiptera. Pomona Journal of Entomology and Zoology 7: 109–121.
- Van Duzee, E. P. 1916.** Check list of the Hemiptera (excepting the Aphididae, Aleurodidae and Coccidae) of America, North of Mexico. New York Entomological Society, New York. 111 pp.
- Van Duzee, E. P. 1917a.** Catalogue of the Hemiptera Excepting the Aphididae, Aleurodidae and Coccidae of America North of Mexico. University of California Publications, Technical Bulletins, Entomology 2: 1–902.
- Van Duzee, E. P. 1917b.** Report upon a collection of Hemiptera made by Walter M. Giffard in 1916 and 1917, chiefly in California. Proceedings of the California Academy of Sciences, Fourth Series 7(11): 249–318.
- Van Duzee, E. P. 1918.** New species of Hemiptera chiefly from California. Proceedings of the California Academy of Sciences, Fourth Series 7: 271–308.
- Van Duzee, E. P. 1920.** New hemipterous insects of the genera *Aradus*, *Phytocoris* and *Camptobrochys*. Proceedings of the California Academy of Sciences, Fourth Series 9(13): 331–356.
- Van Duzee, E. P. 1921.** Characters of some new species of North American hemipterous insects, with one new genus. Proceedings of the California Academy of Sciences, Fourth Series 11(10): 111–134.
- Walley, G. S. 1929a.** Hemiptera, pp. 120–124. In N. Criddle (ed.), The entomological record, 1928. Annual Report of the Entomological Society of Ontario 59: 110–124.
- Walley, G. S. 1929b.** Notes on *Homaemus* with a key to the species (Hemip., Scutelleridae). The Canadian Entomologist 61(11): 253–256.
- Walley, G. S. 1930.** Hemiptera, pp. 147–149. In W. J. Brown (ed.), The entomological record, 1929. Annual Report of the Entomological Society of Ontario 60: 146–157.
- Walley, G. S. 1931.** Hemiptera, pp. 87–88. In W. J. Brown (ed.), The entomological record, 1930. Annual Report of the Entomological Society of Ontario 61: 86–95.
- Ward, C. R., C. W. O'Brien, L. B. O'Brien, D. E. Foster, and E. W. Huddleston. 1977.** Annotated checklist of New World insects associated with *Prosopis* (mesquite). United States Department of Agriculture Technical Bulletin 1557: 1–115.
- Watson, S. A. 1928.** The Miridae of Ohio. The Ohio State University Bulletin 33(4): 1–44. [also Bulletin of the Ohio Biological Survey 16, Vol. IV, No. 1].
- Weirauch, C., R. Hoey-Chamberlain, and A. Knyshev. 2018.** Synopsis of Schizopteridae (Hemiptera, Heteroptera, Dipsocoromorpha) from the United States, with description of seven new species from the US and Mexico. ZooKeys 796: 49–82. Available from <https://doi.org/10.3897/zookeys.796.24176>
- Weirauch, C., R. T. Schuh, G. Cassis, and W. C. Wheeler. 2019.** Revisiting habitat and lifestyle transitions in Heteroptera (Insecta: Hemiptera): insights from a combined morphological and molecular phylogeny. Cladistics 35: 67–105. Available from <https://doi.org/10.1111/cla.12233>
- Wheeler, A. G., Jr. 1989.** *Texocoris nigrellus*: distribution and hosts of an enigmatic plant bug (Heteroptera: Miridae: Orthotylinae). Journal of the New York Entomological Society 97(2): 167–172.
- Wheeler, A. G., Jr. 1992.** Holartic insects adventives in Michigan: new and additional re-

- cords (Homoptera, Heteroptera, Coleoptera, Neuroptera). *The Great Lakes Entomologist* 25: 99–106.
- Wheeler, A. G., Jr. 2004.** First records of a Eurasian scentless plant bug, *Rhopalus tigrinus* (Hemiptera: Rhopalidae), from New Mexico, Texas, and Utah. *The Southwestern Naturalist* 49: 406–408.
- Wheeler, A. G., Jr., and T. J. Henry. 1977.** Miridae associated with Pennsylvania conifers 1. Species on arborvitae, false cypress, and juniper. *Transactions of the American Entomological Society* 103(4): 623–656.
- Wheeler, A. G., Jr., and T. J. Henry. 1992.** A synthesis of the Holarctic Miridae (Heteroptera): distribution, biology, and origin, with emphasis on North America. *Thomas Say Foundation Monographs Vol. 15. Entomological Society of America, Lanham, MD.* 282 pp.
- Wheeler, A. G., Jr., T. J. Henry, and T. L. Mason, Jr. 1983.** An annotated list of the Miridae of West Virginia (Hemiptera-Heteroptera). *Transactions of the American Entomological Society* 109: 127–159.
- Wheeler, A. G., Jr., and E. R. Hoebeke. 1999.** *Rhopalus (Brachycarenum) tigrinus* (Hemiptera: Rhopalidae): first western U.S. records of a Eurasian scentless plant bug. *Entomological News* 110(2): 92–96.
- Whittaker, R. H. 1952.** A study of summer foliage insect communities in the Great Smoky Mountains. *Ecological Monographs* 22(1): 1–44.
- Whittaker, R. J., M. B. Araújo, P. Jepson, R. J. Ladle, J. E. M. Watson, and K. J. Willis. 2005.** Conservation Biogeography: assessment and prospect. *Diversity and Distributions* 11(1): 3–23.
- Williams, A. H. 2004.** Feeding records of true bugs (Hemiptera: Heteroptera) from Wisconsin. *The Great Lakes Entomologist* 37(1–2): 16–29.
- Wirtner, P. M. 1904.** A preliminary list of the Hemiptera of western Pennsylvania. *Annals of the Carnegie Museum* 2(4): 183–232.
- Zetterstedt, J. W. 1838.** Sectio Prima. Coleoptera, Orthoptera et Hemiptera. Ordo III. Hemiptera, pp. 253–316. *In Insecta Lapponica descripta.* Leopoldi Voss, Lipsiae. 1139 pp.