

NEW RECORDS OF HEMIPTERA FROM CANADA AND ONTARIO

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Abstract*J. ent. Soc. Ont.* 134: 115-129

The following Hemiptera species are recorded from Canada for the first time, in many cases also representing new records at the generic level: *Neuroctenus simplex* (Uhler) (Aradidae); *Chariesterus antennator* (Fabricius) (Coreidae); *Hoplistoscelis sordidus* Reuter, *Metatropiphorus belfragei* Reuter (Nabidae); *Amaurochroa ovalis* Barber & Sailer, *Banasa euchlora* Stål, *Dendrocoris humeralis* (Uhler) (Pentatomidae); *Pnirontis modesta* Banks (Reduviidae); *Neokolla lugubris* (Signoret), *Polyamia herbida* DeLong, *Scaphoideus frisoni* DeLong & Mohr (Cicadellidae); *Delphacodes waldeni* Metcalf, *Megamelus davisii* Crawford, *Pentagramma douglasensis* Penner, *Stenocranus delicatus* Beamer (Delphacidae); *Anotia westwoodi* Fitch, *Cedusa kedusa* McAtee, *Otiocerus abbotti* Kirby, *O. amyotii* Fitch, *Otiocerus balli* McAtee, *Syntames uhleri* (Ball) (Derbidae); *Anormenis septentrionalis* (Spinola), *Ormenoides venusta* (Melichar) (Flatidae); *Thionia elliptica* Germar (Issidae); *Acutalis inornata* Ball, *Microcentrus perditus* (Amyot & Serville), *Publilia reticulata* Van Duzee, *Telamona fitchi* Ball, *T. gibberata* Ball (Membracidae); *Neolecanium cornuparvum* (Thro) (Coccidae); *Pseudococcus longispinus* (Targioni & Tozzetti) (Pseudococcidae); *Pachyphylla celtidisinteneris* Mally (Psyllidae); The following Hemiptera species are recorded from Ontario for the first time: *Pangaeus bilineatus* (Say) (Cydnidae); *Anaptus major* (Costa) (Nabidae); *Rhynocoris ventralis* (Say) (Reduviidae); *Eremocoris setosus* Blatchley (Rhyarochromidae); *Cuerna fenestella* Hamilton (Cicadellidae); *Megamelus metzaria* Crawford (Delphacidae); *Scolops pungens* Germar (Fulgoridae). Although Hemiptera were surveyed in several different parts of Ontario, most of the new records were found in a few small Carolinian sites.

Introduction

Insect survey work in southern Ontario routinely yields a high proportion of taxa newly recorded from Canada or Ontario because, for most groups of insects, there are no recent checklists, there has been no recent taxonomic work on the taxa in question, and regional collections have not been recently reviewed for new distributional data. The recent publication of a comprehensive checklist of the Hemiptera of Canada and Alaska (Maw et al. 2000) provides an exception to these generalizations, and gives us a current benchmark against which to evaluate the new records appearing in our recent southern Ontario insect surveys. The following list of 39 new records are organized according to the family and generic combinations used in Maw et al. (2000), but does not follow their subordinal classification. Maw et al. (2000) divide the Canadian Hemiptera into

four suborders (Prosorrhyncha, Archaeorrhyncha, Clypeorrhyncha, Sternorrhyncha) as proposed by Sorenson et al. (1995). We feel that Sorenson et al. do not make a strong case for a new subordinal classification, and will therefore follow the more traditional breakdown of the Hemiptera into the Heteroptera, Auchenorrhyncha (Cicadoidea plus Fulgoroidea), and Sternorrhyncha.

Over the past decade, personnel associated with the University of Guelph Insect Collection have been involved with surveying several Carolinian sites throughout southwestern Ontario. A special focus has been placed on documenting the fauna of several tallgrass prairie (Fig. 1; 6, 10, 12, 14, 21) and oak savannah (Fig. 1; 6, 10, 12, 14, 20, 21, 23, 25) sites. These small sites cover very little area in Ontario and Canada, but contain a large proportion of Ontario's rare and habitat-restricted flora and fauna. Most of the new provincial and national records we report here are from a few key protected Carolinian areas in Ontario. We record eight Heteroptera, twenty-one Auchenorrhyncha and three Sternorrhyncha species new to Canada, along with four Heteroptera and three Auchenorrhyncha new to Ontario.

Materials and Methods

Heteroptera were identified using Slater and Baranowski (1978) and McPherson (1982), further supplemented with Larivière (1992) and Barber (1929). Auchenorrhyncha were identified using references cited in Maw et al. (2000) and supplemental references are cited here.

Specimens are deposited at the University of Guelph Insect Collection (default) and the Canadian National Collection (CNCI). Figure 1 shows all sites mentioned in this paper.

Results

1) Suborder Heteroptera

The Heteroptera comprise a relatively small suborder of more frequently collected, easily identifiable insects. The recent checklist by Maw et al. (2000) reflects distributional information gathered from all major Canadian insect collections. Heteroptera records added since 2000 are therefore either newly introduced or newly established species or species previously overlooked because of rarity or restriction to unusual or poorly known habitats. The results of recent surveys support the assumption that Ontario Heteroptera are well known. For example, a collection of about 2600 insect species, including 115 species of Heteroptera, from the Bruce Peninsula includes a number of rarely collected species, but only one species new to Ontario. Smaller collections from ongoing survey projects in Carolinian reserves, however, include the following Heteroptera newly recorded from Canada or Ontario. Only one of these species was introduced to North America, while the other species appear to be rare or associated with restricted habitats in Canada.

Aradidae

Neuroctenus simplex (Uhler)

Although Slater and Baranowski (1978) state that this small, black aradid is common in the northeastern USA, neither the genus nor the species have previously been recorded from Canada. This species differs from other Canadian species by the closed atrium, which covers the basal portion of the labium. Slater and Baranowski (1973) record it from beech (*Fagus*) and oak (*Quercus*).

Specimen Data: **Niagara Reg.**, 1♀, Vineland, 19 July 1940, W.L. Putman; **Haldimand-Norfolk Reg.**, 1♀, Simcoe, 23 June 1953, (collector not indicated); **Lambton Co.**, 1♀, Port Franks, Karner Blue Sanctuary, 13 June 1996, J. Skevington; **Essex Co.**, 1♀, Ojibway Prairie Prov. Nat. Res., 12 September 2002, S.M. Paiero.

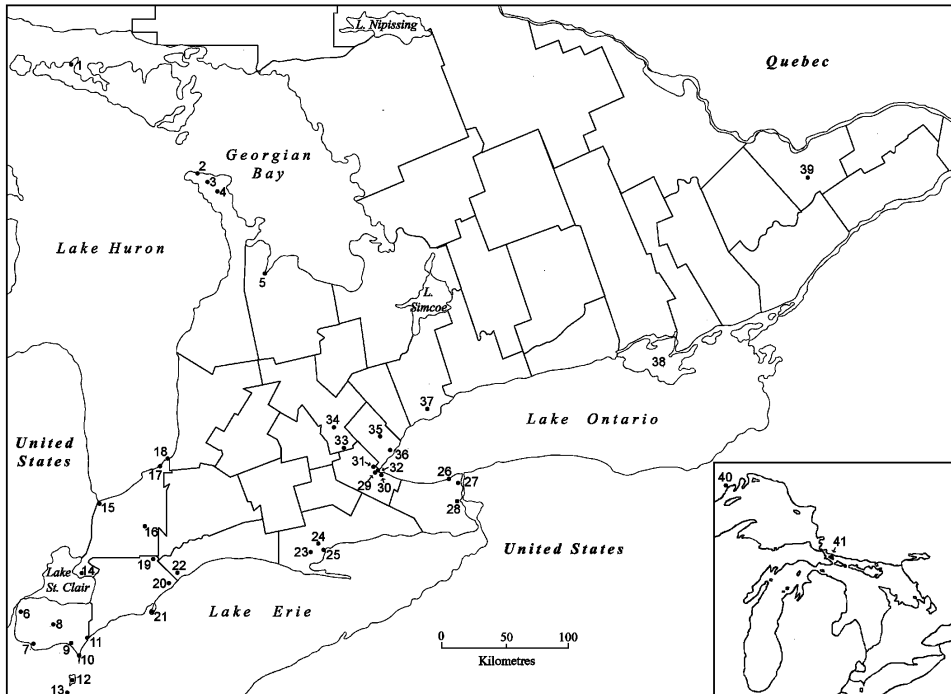


FIGURE 1. Southern Ontario localities with new Hemiptera. 1, 14km E Meldrum Bay; 2, Dunks Bay; 3, 8 km SE of Tobermory; 4, Alvar nr. Dyers Bay Rd. & Hwy #6; 5, Owen Sound; 6, Windsor, Ojibway Prairie Provincial Nature Reserve; 7, Harrow; 8, Woodslee; 9, Leamington; 10, Point Pelee National Park; 11, Wheatley; 12, Pelee Island; 13, Middle Island; 14, Walpole Island; 15, Sarnia; 16, Wyoming; 17, Port Franks; 18, Grand Bend; 19, Bothwell; 20, Clear Creek Reserve; 21, Rondeau Provincial Park; 22, Rodney; 23, Manestar Tract, 6 km NNW St. Williams; 24, Simcoe; 25, Turkey Point Provincial Park; 26, Vineland; 27, Niagara Glen; 28, St. Davids; 29, Dundas; 30, Hamilton; 31, Borers Falls; 32, Royal Botanical Gardens; 33, Crieff; 34, Guelph; 35, Milton; 36, Oakville; 37, Toronto; 38, Prince Edward Co. (locality not indicated); 39, Richmond, 8 km S. Insert: 40, Thunder Bay; 41, Hilton Beach. *Modified from:* Brock University Map Library. Southern Ontario-Regional Municipality Boundaries. [pdf]. Software Edition. St.Catharines, ON: Brock University Map Library. 2004. [sontbase.pdf]

Coreidae

Chariesterus antennator (Fabricius)

The genus and species is recorded from Canada for the first time. This leaf-footed bug, easily distinguished from other Canadian coreids by its dilated and flattened third antennomere, appears to be restricted to three sites of tallgrass habitat, or to have tallgrass prairie affinities in Ontario. *Chariesterus antennator* was first observed on 9 July 1992 and we have observed it commonly at both Ojibway Prairie Provincial Nature Reserve and the Manestar Nature Reserve since then. It is also present on Walpole Island. The conspicuous spiny nymphs appear from May to August, and adults have been collected from May to September, usually on *Euphorbia* although several specimens

were observed on a dead toad. Slater and Baranowski (1978) record *C. antennator* throughout the eastern and central USA but is “scarce and scattered north of the middle Atlantic states”. We consider this species to be associated with of Ontario’s tallgrass prairies.

Specimen Data: **Haldimand-Norfolk Reg.**, Manestar Tract, 6 km NNW St. Williams, 1 specimen (photo only), feeding on *Euphorbia*, 9 July 1992, S.A. Marshall; 1♂2♀, 30 June 2000, M. Buck; 1♂, yellow pans, 8 June 2001, M. Buck; 1♂2♀, sandy field, 15 June 2001, S.M. Paiero; 1♀, sandy field, white pans, 7 September 2001, Buck & Paiero; 2♀, sandy field, 7 September 2001, S.M. Paiero; 2♂♂, sandy field, yellow pans, 23 May 2002, Buck & Paiero; 1♂ 1♀, 15 June 2003, S.A. Marshall; **Lambton Co.**, 1 nymph, Walpole Island, 4 August 1996, J. & A. Skevington; **Essex Co.**, Windsor, Ojibway Prairie Provincial Nature Reserve, 1♀, 18 August 1980, K.N. Barber; 1 nymph, 21 July 2000, S.A. Marshall; 1 nymph, 20 July 2002, S.A. Marshall; 1♂, 8-9 July 2002, S.A. Marshall; 1♀, 30-31 July 2002, S.M. Paiero; 1♂, sweeps, 25 June 2001, S.M. Paiero.

Cydnidae

Pangaeus bilineatus (Say)

This is Ontario’s only *Pangaeus* and the largest (5-8 mm) burrower bug in Ontario. This species has been recorded from Quebec, but neither the genus nor the species was previously known from Ontario. Slater and Baranowski (1978) state that this is a rare species in the northern USA and that “old records from Quebec and New England need verification”. Ontario records are from several Carolinian sites. It was first recorded from Point Pelee’s east beach in September 1997 (photo only). McPherson (1982) records several host plants.

Specimen Data: **Essex Co.**, 1♂, Pelee Island, Porchuk property, malaise, 9-28 August 2002, Porchuk & Marshall; 1♀ Pelee Island, Lighthouse Point Prov. Nat. Res., 8 June 2002, M. Buck; 1♂, Pelee Island, Fish Point Prov. Nat. Res., 8 June 2002, S.A. Marshall; 1♀, Pelee Island, East Park campground, 7 June 2002, S.A. Marshall; 1 specimen (photo only), Point Pelee Ntnl. Pk., east beach, September 1997, S.A. Marshall; 1♀, Point Pelee Ntnl. Pk., Opuntia field, yellow pans, 24-25 July 2003, Cheung & Paiero; 1 nymph, Point Pelee Ntnl. Pk., wooded area by West beach, malaise/pan traps, 10-23 September 1999, O. Lonsdale; 1♀, Point Pelee Ntnl. Pk., De Laurier Trail, 14 August 2003, M. Buck; 1♀, Point Pelee Ntnl. Pk., The Dunes, 24 July 2003, S.M. Paiero; 1♂2♀, Point Pelee Ntnl. Pk., Opuntia field, 11-17 July 2003, D. Cheung; 1♀ Ruscom Shores Conservation Area, E of Deerbrook, 8 July 2002, S.A. Marshall; 1♀, Windsor, Ojibway Prairie Prov. Nat. Res., 8-9 July 2002, S.A. Marshall.

Nabidae

Anaptus major (Costa)

This species is recorded for the first time in Ontario. *Anaptus major* is an introduced Palearctic species that was first recorded in North America by Barber (1932). It has since been recorded from eastern North America in New York and Pennsylvania (Wheeler 1976) and has been recorded in Canada from British Columbia (Lattin 1966). This species can be distinguished from other nabids in eastern Canada by the characters given in Larivière (1992).

Specimen Data: **Grey Co.**, 1♀, Owen Sound, meadow, 17 September 1989, G.J. Suchomel; **Niagara Reg.**, 1♀, Vineland, 2 August 1958, C.A. Small; 1♀, Vineland, June 1956, H.W.H. Zavitz; **Halton Reg.**, 1♀, Oakville, 3 August 1977, W.A. Attwater; 1♀, Oakville, nr. Hwy #25 & Burnhamthorpe Rd., yellow pans, 12-14 September 2003, S.M. Paiero; **Hamilton-Wentworth Reg.**, 1♀ Borers Falls, 14 August 1978, B. Watner; 1♀, **Elgin Co.**, Rodney, 29 August 1983,

M. Mezenberg; **Wellington Co.**, Guelph, University of Guelph Arboretum (south), 1 ♀, field sweep, 31 July 1997, D.C. Caloren; 1 ♀, field/rocky trail, 17 August 1997, D.C. Caloren; 1 ♀, Guelph, 15 July 1976, W.A. Attwater; 1 ♀, Guelph, flower, 25 September 1984, T. Young.

***Hoplistoscelis sordidus* Reuter**

This is the second *Hoplistoscelis* to be recorded from Canada, and the first record of the genus from eastern Canada. This nabid, commonly collected in its brachypterous form throughout the eastern USA, has probably been overlooked in Canada due to its resemblance to nymphal *Nabis*. *Hoplistoscelis* is readily distinguished from other nabids in eastern Canada by the denticulate fore and mid femora (Harris 1928). Blades and Marshall (1994) tentatively recorded this species from Ontario but further study of their material revealed that their specimens were species of *Nabis*.

Specimen Data: **Haldimand-Norfolk Reg.**, 1 ♀, Manestar Tract, 6km NNW St. Williams, forest, white pans, 15 June 2001, Buck, Paiero & McKendry; **Essex Co.**, Windsor, Ojibway Prairie Prov. Nat. Res., 1 ♀, yellow pans, 29 June-3 July 2001, S.M. Paiero; 1 ♀, 18-19 June 2002, O. Lonsdale; 1 ♂, 26-27 August 2002, S.M. Paiero; 1 ♀, Ojibway Prairie Prov. Nat. Res., nr. Sprucewood Ave. observation point, yellow pans, 12-13 September 2002, Buck & Paiero; **Lambton Co.**, Port Franks, Watson Property nr. L-Lake, 1 ♂ 17 September 1996, J. Skevington; 1 ♀, 15 June 1996, J. Skevington; 1 ♀, 20 June 1996, J. Skevington; **Kent Co.**, 1 ♀, Wheatley, 11 August 1973, R.E. Roughley; 1 ♀, Rondeau Prov. Pk., Harrison trail nr. Group campground, 17 June 2003, S.M. Paiero; 1 ♀, Rondeau Prov. Pk., Tulip Tree trail, Carolinian forest, sweeps, 7 September 2003, M. Buck; 1 ♂ 3 ♀ ♀, Clear Creek Res., 10 October 2003, Marshall & Paiero; **Wellington Co.**, 1 ♀, Guelph, grass, 10 October 1984, T. Young; 1 ♂, Guelph, University of Guelph w. campus grove, sweep net, 26 September 1990, M.M. Castillo; 1 ♀, Crieff, 2 km SE on 7th Conc., 30 August 2002, S.A. Marshall.

***Metatropiphorus belfragei* Reuter**

The genus is recorded for the first time in Canada. Whereas this species is apparently scarce throughout the eastern United States (Slater and Baranowski 1978), it has been recorded from several northeastern states (Harris 1928) and it is not surprising to find it in Canada. It can be distinguished from other Ontario nabids by the 1st antennomere being longer than the head and by the lack of tibial pads.

Specimen Data: **Halton Reg.**, 1 ♀, Oakville, nr. Hwy. #25 & Burnhamthorpe Rd., 9-10 August 2003, S.M. Paiero.

Pentatomidae

Most members of the Pentatomidae are relatively conspicuous and well-known insects, therefore the discovery of four pentatomids new to Canada shows how poorly known our Carolinian fauna was before this study. These species are best separated from other eastern Pentatomidae by the keys given in McPherson (1982).

***Amaurochroa ovalis* Barber & Sailer**

This species is recorded for the first time in Canada. One other species (*A. cinctipes* (Say)) was previously known from eastern Canada. *Amaurochroa* is generally associated with damp grassy areas or streamside vegetation (McPherson 1982) and the specimens collected from Pelee Island were found on an unidentified grass.

Specimen Data: **Essex Co.**, 1 ♀, Ojibway Prairie Prov. Nat. Res., yellow pans, 12-15 June 2001, S.M. Paiero; 7 ♂ ♂ 5 ♀ ♀, Pelee Island, Fish Point Prov. Nat. Res., Marshall & Paiero.

***Banasa euchlora* Stål**

This species is recorded for the first time in Canada. It is known to occur throughout the eastern US, where it feeds on cedar and juniper trees (McPherson 1982).

Specimen Data: **Essex Co.**, 1♂, Point Pelee Ntnl. Pk., 23 August 2000, O. Lonsdale; **Halton Reg.**, 1♂, Milton, Derry Rd. and 4th Line, at light, 23 August 2002, S.M. Paiero.

***Dendrocoris humeralis* (Uhler)**

This genus is recorded for the first time in Canada. *Dendrocoris humeralis* is found throughout the eastern USA and is known to feed on oak, hickory, pine, peach, brome grass, locust, elderberry, and raspberry (McPherson 1982).

Specimen Data: **Essex Co.**, 1♂, Windsor, ~1.5 km S Ojibway Prairie Prov. Nat. Res., prairie remnant-forest edge, malaise, 1-19 August 2001, P. Pratt; **Halton Reg.**, Oakville, nr. Hwy #25 & Burnhamthorpe Rd., 2♂♂, 30 August 2003, S.M. Paiero; 1♂, 12 September 2003, S.M. Paiero; 1♂, forest, malaise, 14 September-1 October 2003, S.M. Paiero; **Haldimand-Norfolk Reg.**, 1 nymph, Turkey Point Prov. Pk., prey of *Astata nubecula* Cresson (Crabronidae), 17 August 2003, M. Buck; **Lambton Co.**, 1♀, Port Franks, Karner Blue Sanctuary, malaise, 8-10 June 1996, J. Skevington.

Reduviidae***Pnirontis modesta* Banks**

The genus and species is recorded from Canada for the first time. This species was known previously in the east from Virginia south to Florida, west to Texas and north to Indiana (Barber 1929) and Illinois (Hagerty and McPherson 1999). This dull yellow assassin bug is distinguished from other reduviids in Ontario by the branched spines below the eye, a ventral row of spines on the first antennal segment, the blunt spine on the apex of the first antennal segment, and two rows of spines on the fore tibia.

Specimen Data: **Kent Co.**, 1♂, Rondeau Prov. Pk., Visitors Centre, mercury vapour light, 3 July 2003, S.M. Paiero.

***Rhynocoris ventralis* (Say)**

This genus is newly recorded for Ontario. It is a widely distributed species in the USA east of the Rocky Mountains, and is previously known in Canada from British Columbia east to Manitoba. *Rhynocoris ventralis* is the only black and red assassin bug in Ontario.

Specimen Data: **Haldimand-Norfolk Reg.**, Manestar Tract, 6km NNW St. Williams, sandy field, 1♀, 3 June 2000, M. Buck; 2♀♀, white pans, 25 July 2000, M. Buck; 1♀, white pans, 15 June 2001, Buck, Paiero & McKendry; 2♂♂2♀♀, yellow pans, 25 June 2001, M. Buck; 1♂, white pans, 25 June 2001, M. Buck; 1♂, 15 June 2001, S.M. Paiero; 1♂, white pans, 3 August 2001, Buck & Parchami-Araghi.

Rhyparochromidae***Eremocoris setosus* Blatchley**

This species was previously known from Quebec and is recorded in the USA from Ohio south to Florida (Slater and Baranowski 1990). No hosts are recorded. This species can be distinguished from other *Eremocoris* by the unicolourous dark brown colouration and the dense long setae of the body.

Specimen Data: **Bruce Co.**, 1♀, Alvar nr. Dyers Bay Rd. & Hwy #6, pan trap, 31 May-8 June 2000, C.S. Onodera.

2) Suborder Auchenorrhyncha (superfamilies Cicadoidea and Fulgoroidea)

Although a larger and less thoroughly documented group than the Heteroptera, the Auchenorrhyncha of Ontario have been extensively studied (e.g., Hamilton 1992; Bouchard et al. 2002), and the checklist in Maw et al. (2000) included virtually all of the species taken in recent collecting and survey work outside a few Carolinian sites. For example, of 2202 specimens and 147 species of Auchenorrhyncha recently collected as part of a survey of insects of the upper Bruce Peninsula, many species were previously known only from a few localities in Canada, however all but one were previously recorded from Canada. As was the case for the Heteroptera, the new records of Auchenorrhyncha have generally been discovered in small and environmentally sensitive patches of habitat in Carolinian Ontario.

Cicadellidae

Cuerna fenestella Hamilton

This distinctive species is newly recorded from Ontario and is abundant in a small portion of the Ojibway Prairie Provincial Nature Reserve. Like its common congener *C. striata* (Walker), which is well known and abundant in Ontario, *C. fenestella* overwinters as an adult and can be found in large numbers very early in the spring, although adults have been taken in every warm month of the year. *Cuerna fenestella* was not previously recorded east of Manitoba (Hamilton 1970). In Ontario, it is restricted to tallgrass prairie. The host plant is unknown.

Specimen Data: Essex Co., Windsor, Ojibway Prairie Prov. Nat. Res., 1♀, 26 June 1997, S.A. Marshall, 1 specimen, 12 September 1999, S.A. Marshall; 1 specimen, 29 April 2000, S.A. Marshall; 1 specimen, 27 May 2000, S.A. Marshall; 12♂♂ 16♀♀, 3 May-12 October 2001, yellow pan traps, Paiero et al.

Neokolla lugubris (Signoret)

This species is newly recorded from Canada. *Neokolla lugubris* is a senior synonym of *Keonolla dolobrata* (Ball), and also has been placed in *Graphocephala* (Young 1977) where it was erroneously treated as a synonym of *G. hieroglyphica* (Say). Hamilton and Langor (1987) discuss the problem of the identity of *Neokolla hieroglyphica* (Say).

Specimen Data: Essex Co., 1♂, Windsor, Ojibway Prairie Prov. Nat. Res., sweeps and yellow pans, 13-14 July 2001, S.M. Paiero.

Polyamia herbida DeLong

This species is newly recorded from Canada. *Polyamia herbida* is a prairie species previously known only from Illinois (Sinada and Blocker 1994).

Specimen Data: Bruce Co., 2♂♂ 2♀♀ (CNCI), 8 km SE of Tobermory, 17 August 1988, K.G.A. Hamilton.

Saphoideus frisoni DeLong & Mohr

This species is newly recorded from Canada. Nothing is known about the biology of *S. frisoni* except that it, like most of its congeners, inhabits understory vegetation in woodlands.

Specimen Data: Bruce Co., 1♂, Dunks Bay, Adam's farm, malaise, 10-29 August 1997, S.A. Marshall; Essex Co., 1♂, Point Pelee Ntnl. Pk., malaise & pan trap, 26 July - 4 August 1999, A. Tesolin.

Delphacidae

Delphacodes waldeni Metcalf

This species is newly recorded from Canada. This species was previously known only from Connecticut (Metcalf 1923). Nothing is known about its host plants.

Specimen Data: Essex Co., 1♂, Windsor, Ojibway Prairie Prov. Nat. Res., unburnt woods, yellow pans, 30 August-4 September 2001, S.M. Paiero.

Megamelus davisi Van Duzee

This species is newly recorded from Canada. It is known to feed on the leaves of water lilies (*Nuphar advena* (Aiton), Wilson and McPherson 1981a).

Specimen Data: Essex Co., 4♀♀, Point Pelee Ntl. Pk., Marsh trail, 23 August 2000, O. Lonsdale.

Megamelus metzaria Crawford

This species is newly recorded in Ontario. *Megamelus metzaria* had previously been known from Saskatchewan to Nova Scotia, with the exception of Ontario. It is known to feed on *Spartina* (Wilson et al. 1993).

Specimen Data: Essex Co., Ojibway Prairie Prov. Nat. Res., yellow pans, 1♀, 4-7 September 2001, S.M. Paiero; 1♂, 14-18 September 2001, S.M. Paiero; 2♂♂1♀, 2-5 October 2001, S.M. Paiero; **Thunder Bay Distr.**, 1♂ (CNCI), Thunder Bay, Manitou Mounds, 19 July 2002, R. Foster.

Pentagramma douglasensis Penner

This species is newly recorded from Canada. It was previously only known from Michigan (Penner 1947).

Specimen Data: Manitoulin Distr., 1♀ (CNCI), Manitoulin Island, 14 km E of Meldrum Bay, 19 August 1988, K.G.A. Hamilton.

Stenocranus delicatus Beamer

This species is newly recorded from Canada. It is a prairie species previously known only from Kansas and Illinois (Beamer 1946).

Specimen Data: Manitoulin Distr., 1♂4♀♀ (CNCI), Manitoulin Island, 14 km E of Meldrum Bay, 19 August 1988, K.G.A. Hamilton.

Derbidae

Anotia westwoodi Fitch

This species is newly recorded from Canada. This species feeds on various deciduous trees (Dozier 1926), and has previously been recorded from the northeastern USA (Wilson and McPherson 1980a).

Specimen Data: Essex Co., 1♂, Windsor, Ojibway Ojibway Prairie Prov. Nat. Res., nr. Sprucewood Ave. observation point, yellow pans, 28-29 August 2002, Buck & Paiero.

***Cedusa kedusa* McAtee**

This species is newly recorded from Canada. Although no host plants have been recorded, *C. kedusa* likely feeds on a variety of deciduous trees like its congeners (Dozier 1926) and is widely distributed throughout the eastern USA from New York to Florida (Wilson and McPherson 1980a).

Specimen Data: Lambton Co., 2♂♂13♀♀, Port Franks, Karner Blue Sanctuary, malaise, 27 June-30 July 1996, J. Skevington.

***Otiocerus abbotti* Kirby**

This species is newly recorded from Canada. It is known throughout the northeastern USA and south into Florida (Wilson and McPherson 1980a). Dozier (1926) records it on oak (*Quercus*).

Specimen Data: Kent Co., 1♂, Rondeau Prov. Pk., Spicebush trail, Carolinian forest, malaise, 15 August-7 September 2003, Marshall et al.

***Otiocerus amyotii* Fitch**

This species is newly recorded from Canada. It has been recorded as feeding on “hickory and other forest trees” (Dozier 1926) but probably feeds on a variety of deciduous trees. It is known throughout the northeastern USA and south into North Carolina (Wilson and McPherson 1980a).

Specimen Data: Hamilton-Wentworth Reg., Dundas, 4♀♀, 22-29 July 1980, E.A. Menard.

***Otiocerus balli* McAtee**

This species is newly recorded from Canada. This species likely feeds exclusively on deciduous trees (Dozier 1926) and has been recorded in the northeastern USA (as *Shellenius*, Wilson and McPherson 1980a).

Specimen Data: Algoma Distr., 1♂, Hilton Beach, hardwood forest/field malaise, 7 August 1987, F.W. & J.H. Swann; 1♀, Hilton Beach, forest/field malaise, 1-3 August 1987, F.W. & J.H. Swann.

***Syntames uhleri* (Ball)**

This genus and species, previously known from the northeastern USA, are recorded for the first time in Canada from a fen near the town of Richmond. Dozier (1926) recorded it from an ironweed leaf (*Vernonia* sp.) and from sweep netting samples taken in deciduous woods throughout the northeastern USA from New York south into Mississippi (as *Omolicna*, Wilson and McPherson 1980a).

Specimen Data: Carleton Co., 1♂1♀, Richmond, 8 km S, fen, sweeping, 22 August 2000, M. Buck.

Flatidae***Anormenis septentrionalis* (Spinola)**

This genus is newly recorded from Canada. This species is widespread in the eastern USA (Wilson and McPherson 1981b), and it is not surprising to find it in southern Ontario. Unlike some other fulgoroids, such as *Acanalonia conica* (Say), which have expanded their range northward over the past few decades (Pechuman and Wheeler 1981), *A. septentrionalis* has been part of our fauna for some time and specimens are known from as early as 1961 (two specimens, labelled “Windsor” but probably from Ojibway Prairie). This species is known to have a wide host plant range of more than 40 species (Wilson and McPherson 1980b).

Specimen Data: **Essex Co.**, 2♂♂, Windsor, 12 August 1961, G.P. Brumpton; 1♀, Windsor, 10 August 1977, C.A. Schisler; 1♂2♀♀, Windsor, ~1.5km S Ojibway Prairie Prov. Nat. Res., malaise, 22 September-13 October 2001, S.M. Paiero; 1♀, malaise, 1-22 September 2001, S.M. Paiero; 1♀, Harrow, grass/tree field, sweep net, 8 August 1997, P. Livingston; 1♂, Woodsley, 9 August 1976, J. Hearty; **Hamilton-Wentworth Reg.**, 1♀, Dundas, North Shore trails, 25 August 2002, S.A. Marshall; **Kent Co.**, 1♀, Clear Creek Res., 10 October 2003, S.M. Paiero; 1♀, Wyoming, flower, 26 August 2000, J. Smith; **Lambton Co.**, 1♂, Sarnia, Lambton College, 4 September 1996, J. Skevington.

Ormenoides venusta (Melichar)

This genus is newly recorded from Canada. It was previously known from the eastern USA south to Florida and Texas (Wilson and McPherson 1981b). Wilson and McPherson (1980b) record it from *Carya*, *Juglans*, *Ulmus*, *Pyrus*, and *Vitis*; we have observed it feeding on *Cornus*.

Specimen Data: **Essex Co.** Windsor, Ojibway Prairie Prov. Nat. Res., 1♀, 13 August 2002, S.A. Marshall; 5♂♂, 12-13 September 2002, S.M. Paiero; 9♂♂5♀♀, 26-27 September 2002, S.M. Paiero.

Fulgoridae

Scolops pungens Germar

This species is newly recorded from Ontario and was previously tentatively recorded from Saskatchewan and Manitoba (Maw et al. 2000). *Scolops* species are known to feed on a variety of grasses, and individuals are commonly collected by sweeping grasses in late summer. No specific hosts are recorded for this species.

Specimen Data: **Essex Co.**, 1♀, Harrow, overgrown lot, sweep net, 10 August 1987, P. Livingston; 1♂(CNCI), Leamington, 15 August 1970, T.D. Galloway; **York Reg.**, 1♂, Toronto, 27 July 1981, L. Coote.

Issidae

Thionia elliptica Germar

This species is newly recorded from Canada. Little is known about the host plants of *T. elliptica*, although its sister species, *T. bullata*, is known to feed on oaks and hickory (Dozier 1926), and it is likely that *T. elliptica* feeds on a similar range of hosts. *Thionia bullata* is relatively rare in Ontario, having only been recorded from four females taken at different sites (Bothwell, 17 August 1974; Niagara Glen, 20 August 1998; St. Davids, 20 August 1934; Rondeau Provincial Park, 4 October 2001). Both species occur throughout the northeastern USA (Wilson and McPherson 1980a).

Specimen Data: **Hamilton-Wentworth Reg.**, 1♀, Hamilton, 21 June 1983, G.L. Livingston.

Membracidae

Acutalis inornata Ball

This species is newly recorded in Canada. This species was previously recorded from Missouri (Kopp and Yonke 1973a) and Florida (Van Duzee 1917). While some authors have regarded *A. inornata* to be a colour variety of *A. tartarea* (Say) (Kopp and Yonke 1973a; Tsai and Kopp 1980), we regard *A. inornata* as a distinct species from *A. tartarea* and *A. brunnea* (Provancher) as none of the specimens examined (12 *A. tartarea*, 97 *A. brunnea*) exhibited any tendencies towards the

paler form of *A. inornata*. The three species can be identified by the following characters: *A. tartarea* has a completely black pronotum with the forewing, except for the apical cells, black and opaque; *A. inornata* is completely pale with hyaline forewings; *A. brunnea* is marked with black on the pronotum with hyaline forewings. Although Kopp and Yonke (1973b) record several hosts for the *Acutalis tartarea*, no specific hosts are specifically mentioned for *A. inornata* as it was considered to be a colour variety of *A. tartarea*.

Specimen Data: Lambton Co., 1♀(CNCI), Grand Bend, 11 July 1939, G.E. Shewell.

***Microcentrus perditus* (Amyot & Serville)**

This species is newly recorded from Ontario and is distinctive from other Ontario membracids with its pair of flattened pronotal horns, visible scutellum and bark-like appearance. The recorded host plants are scrub oak and bur oak (Kopp and Yonke 1973b; Hamilton 1985). The second species of *Microcentrus*, *M. caryae* (Fitch) feeds on hickory (*Carya sp.*) and is known in Canada from Ontario and Quebec (Maw et al. 2000). Both species occur in the northeastern USA (Kopp and Yonke 1973b; Hamilton 1985) but are uncommonly collected.

Specimen Data: Haldimand-Norfolk Reg., 1♀, Manestar Tract, 6 km NNW St. Williams, on Crategus, 15 June 2001, S.M. Paiero.

***Publilia reticulata* Van Duzee**

This species is newly recorded from Canada. Kopp and Yonke (1973b) record this species from many eastern states including nearby Ohio and Pennsylvania. It is recorded feeding on ironweed (*Vernonia sp.*) and asters (*Aster sp.*).

Specimen Data: Essex Co., Windsor, Ojibway Prairie Prov. Nat. Res., 1♂ 27 May 2000, S.A. Marshall; 2♂♂, 3 May 2001, O. Lonsdale; 5♂♂5♀♀, yellow pans, 3-22 May 2001, S.M. Paiero; 4♂♂1♀, sweep, 30 May 2001, S. Goodfellow; 1♂, yellow pans, 8-12 June 2001, Fawdry & Kuipers; 1♂, yellow pans, 12-15 June 2001, S.M. Paiero; 1♂, yellow pans, 10-14 August 2001, S.M. Paiero; 1♂ 1♀, yellow pans, 28 September-5 October 2001, S.M. Paiero; 2♂♂, yellow pans, 30 May 2002, S.M. Paiero; 1♂1♀, 18-19 June 2002, O. Lonsdale; 1♀, Windsor, ~1.5 km S Ojibway Prairie Prov. Nat. Res., malaise, 5-12 June 2001, S.M. Paiero.

***Telamona fitchi* Ball**

This species is newly recorded from Canada. It is a rare species previously known from Maryland, New York and Pennsylvania (Ball 1931). Its plant host is unknown.

Specimen Data: Lambton Co., 1♀(CNCI), Port Franks, Karner Blue Sanctuary, 1 September 1994, K. Stead.

***Telamona gibberata* Ball**

This species is newly recorded from Canada. Ball (1931) records it on hackberry (*Celtis*), but one specimen recorded here was found on blue beech (*Carpinus caroliniana* Walt.). This species shows considerable sexual dimorphism in the pronotal crest shape. Kopp and Yonke (1974) record it from Illinois, Iowa, Nebraska, New Jersey, Texas and Louisiana.

Specimen Data: Lambton Co., 1♀(CNCI), Sarnia, 14 July 1974, K.G.A. Hamilton; **Prince Edward Co.**, 1♂(CNCI), 28 June 1945, Brimley; 1♂(CNCI), "beaten from blue beech", 14 August 1937, Brimley.

3) Suborder Sternorrhyncha

Although the recent checklist does cover the Sternorrhyncha, these generally small, soft-bodied insects are not as well documented as the other Hemiptera suborders. Because they often require special preparation, and because most taxa are identifiable only by a few specialists, they have not been significant components of recent survey projects. Nonetheless, we can point to a few species of Ontario Sternorrhyncha that were not included in Maw et al. (2000). The following Sternorrhyncha can be added to our fauna:

Coccidae

Neolecanium cornuparvum (Thro)

The genus and species are newly recorded from Canada. The conspicuous Magnolia Scale, the largest scale in eastern North America, was not included in Maw et al. (2000), although it is an established pest of *Magnolia* in southern Ontario.

Specimen Data: Hamilton-Wentworth Reg., 1 ♀ (photo only), Hamilton, Royal Botanical Gardens, August 1998, S.A. Marshall.

Pseudococcidae

Pseudococcus longispinus (Targioni & Tozzetti)

The Long-tailed Mealybug is a well-known pest in many parts of the world, but has not been formally recorded from Canada. It is a common pest on greenhouse and house plants in southern Ontario.

Specimen Data: Wellington Co., 1 ♀ (photo only), Guelph, University of Guelph, in greenhouse, September 1998, S.A. Marshall.

Psyllidae

Pachypsylla celtidisinteneris Mally

This species is newly recorded from Canada. Like other *Pachypsylla*, *P. celtidisinteneris* forms galls on hackberry trees (*Celtis* spp.) (Tuthill 1943). It has previously been recorded from Iowa, Illinois and Ohio (Tuthill 1943).

Specimen Data: Essex Co., 1 ♀, Pelee Island, Fish Point Pro. Nat. Res., 7 June 2002, S.M. Paiero; Middle Island, 11 June 2003, S.A. Marshall, 1 ♂, (collecting method not indicated); 6 ♂♂ 2 ♀♀, shore, yellow pans; 2 ♀♀, yellow pans in mud; 1 ♂ 3 ♀♀, cormorant colony, yellow pans.

4) Status of some previously recorded species

Skevington *et al.* (2001) also record several taxa not listed in Maw et al. (2000). Of these, we were able to confirm *Lepyronia gibbosa* Ball (Cercopidae) and *Trionymus winnemucuae* McKenzie (Pseudococcidae) as present in Ontario. Specimens for two species recorded in Skevington et al. (2001), *Merocoris typhaeus* (Fabricius) (Coreidae) and *Balclutha manitou* (Gillette and Baker) (Cicadellidae), were examined and found to be misidentified specimens of *M. distinctus* Dallas and *B. impicta* (Van Duzee) respectively. One specimen was tentatively identified as *Telamona gibbera* Ball but was reidentified as *Telamona fitchi* Ball (see above). *Aphis hamamelidis* Pepper was also recorded as new to Ontario, but we were unable to confirm its presence.

One pentatomid, *Stiretrus anchorago* (Fabricius), was previously recorded in Ontario (McPherson 1982), but was not included in Maw et al. (2000). Its omission from the checklist occurred presumably because no specimens were found in Canadian collections. Its presence in Ontario is confirmed with the collection of several specimens (2♂♂6♀♀) from the Ojibway Prairie Provincial Nature Reserve.

Other records in the literature since Maw et al. (2000) include *Erythroneura carbonata* McAtee, recorded by Sauer (2002) as new to Ontario from the Ojibway Prairie Provincial Nature Reserve, and *Aphis glycines* Matsumura, recorded by Larsen et al. (2002) in Ontario.

Discussion

Although Maw et al. (2000) provided a comprehensive list of Hemiptera taxa known from Canada at that time, we list eight Heteroptera, twenty-one Auchenorrhyncha and three Sternorrhyncha species new to Canada since then, as well as an additional four Heteroptera and three Auchenorrhyncha new to Ontario. Although some of these new records merely represent previously undocumented northern outliers of species widespread south of the border, many of the new records are species that previously escaped detection because they are rare or highly habitat-restricted in Canada. Species in the latter category are of particular interest as potentially threatened or endangered species but further study is required.

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