

## New records of Corixidae (Heteroptera) from northeastern USA and eastern Canada, with one new synonymy

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The following numbers of new state and province records of Corixidae are reported: Maine 18, New Hampshire 27, Vermont 32, Massachusetts 11, Connecticut 23, Rhode Island 22, New York 12, Ontario 9, Quebec 4, New Brunswick 3, Nova Scotia 22, Prince Edward Island 6, Newfoundland 2, and Labrador 7. *Trichocorixa verticalis fenestrata* Walley is synonymised with the nominate subspecies.

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### 1. Introduction

The northeastern United States and parts of eastern Canada have been badly neglected areas in distributional records of Corixidae. In his revision of the Corixidae of the Western Hemisphere, Hungerford (1948, including Sailer 1948) listed the following numbers of species for northeastern USA: Maine 16, New Hampshire 20, Vermont 3, Massachusetts 28, Connecticut 19, Rhode Island 15, and New York 35. Polhemus *et al.* (1988) added three species to Maine, one to New Hampshire, one to Massachusetts, five to Connecticut, and one to Rhode Island. For eastern Canada, Hungerford (1948) reported the following numbers of species per province: Ontario 22, Quebec 19, New Brunswick 7, Nova Scotia 4, Prince Edward Island none, Newfoundland 9, and Labrador 2. Note that Hungerford considered the latter two as separate areas, and because Labrador is biologically very different from the Island of Newfoundland, the present paper follows Hungerford's concept. Lansbury (1955, including also some earlier publications) added new provincial records

as follows: Ontario 4, Quebec 9, New Brunswick 1, Newfoundland 3, and Labrador 3. Larsen and Colbo (1983, overlooking Lansbury 1955) added eight species to the list for the Island of Newfoundland. Polhemus *et al.* (1988) added new provincial records for eastern Canada as follows: Ontario 17, Quebec 13, New Brunswick 15, Nova Scotia 10, Prince Edward Island 10, and Newfoundland 1. I, too, have exactly matching data from specimens that I identified in the early 1980's mainly for the Canadian National collection. I asked John T. Polhemus about the origins of these records, but there are seemingly no notes concerning them. Therefore, there is a possibility to have missed some essential publications.

### 2. Distribution

While preparing a revision of North American Corixidae, I had an opportunity to study several other North American collections and thus, as a preliminary report, I can now list a number of new records for northeastern USA and eastern Canada (Table 1).

Table 1. The species of Corixidae recorded from northeastern USA and eastern Canada: ME, NH, VT, MA, CT, RI, NY, ONT, QUE, NB, NS, PEI, NFL and LB. Symbols: X = previous record of the species, X\* = new state or province record, – = species not recorded so far for the state or province in question.

Species	ME	NH	VT	MA	CT	RI	NY	ONT	QUE	NB	NS	PEI	NFL	LB
<i>Cymatia americana</i> Hussey	–	–	–	–	–	–	–	X	X	–	–	–	–	–
<i>Dasycorixa hybrida</i> (Hungerford) <sup>1</sup>	–	–	–	–	–	–	–	X*	X*	–	–	–	X* <sup>2</sup>	–
<i>D. johanseni</i> (Walley) <sup>1</sup>	–	–	–	–	–	–	–	–	X	–	–	–	–	–
<i>Glaenocorixa cavifrons</i> (Thomson) <sup>1,3</sup>	–	–	–	–	–	–	–	–	X	–	–	–	X	X*
<i>Arctocorixa chanceae</i> Hungerford	–	–	–	–	–	–	–	X*	X	–	–	–	X	X*
<i>A. convexa</i> (Fieber)	–	–	–	–	–	–	–	X*	X	–	–	–	X	X
<i>A. planifrons</i> (Kirby)	–	–	–	–	–	–	–	–	–	–	–	–	X	X
<i>Callicorixa alaskensis</i> Hungerford	X*	X	X*	–	X*	–	X	X	X	X	X	–	X	X
<i>C. audeni</i> Hungerford	X	X*	X*	X*	X*	X*	X*	X	X	X	X	–	X	X*
<i>Cenocorixa utahensis</i> (Hungerford)	–	–	–	–	–	–	–	X	–	–	–	–	–	–
<i>Corisella edulis</i> (Champion)	–	X*	–	–	–	–	–	–	–	–	–	–	–	–
<i>C. tarsalis</i> (Fieber)	–	–	–	X*	X*	–	X <sup>4</sup>	X	–	–	–	–	–	–
<i>Hesperocorixa atopodonta</i> (Hungerford)	X	X	X*	X	X	X	X	X	X	X	X	X	X	–
<i>H. harrisii</i> (Uhler) <sup>5</sup>	–	–	X	X	X*	X	X	X	X	–	X	X	–	–
<i>H. interrupta</i> (Say)	X	X	X	X	X	X	X	X	X	X*	X*	–	–	–
<i>H. kennicottii</i> (Uhler) <sup>5</sup>	X	X	X*	X	X	X*	X	X	X	–	X*	–	–	–
<i>H. lobata</i> (Hungerford)	X	X	X*	X	X*	X	X	–	–	–	X*	–	–	–
<i>H. lucida</i> (Abbott)	–	X*	X*	X	X	X	–	–	–	–	–	–	–	–
<i>H. martini</i> (Walley)	–	–	–	–	X*	X*	–	–	–	–	–	–	–	–
<i>H. michiganensis</i> (Hungerford)	X*	X	X*	X	–	–	X	X	X	X	X*	–	–	–
<i>H. minor</i> (Abbott)	–	X*	–	X	X*	X	X <sup>4</sup>	–	–	–	–	–	–	–
<i>H. minorella</i> (Hungerford)	X	X	–	X*	X	–	X*	X	X	X	X	X*	X	–
<i>H. nitida</i> (Fieber)	X	X*	–	X	X	X	X	–	–	–	–	–	–	–
<i>H. obliqua</i> (Hungerford)	–	–	X*	X	X*	X*	X	X*	–	–	–	–	–	–
<i>H. scabricula</i> (Walley)	–	X*	X*	X*	X*	X*	–	X	X	X	X*	X	–	–
<i>H. semilucida</i> (Walley)	–	X*	X*	X	X*	–	X	X	X*	–	X*	–	–	–
<i>H. vulgaris</i> (Hungerford)	X	X	X	X	X	X	X	X	X	X	X*	–	–	–
<i>Palmacorixa buenoi</i> Abbott	X*	X*	–	X	X*	X*	X	X	X	–	X*	–	X	–
<i>P. gillettei</i> Abbott	X*	–	X*	–	–	–	–	X	X	–	–	–	–	–
<i>P. nana nana</i> Walley	–	–	–	–	–	–	X	X*	X	–	–	–	–	–
<i>Ramphocorixa acuminata</i> (Uhler)	–	–	–	–	–	–	–	X*	–	–	–	–	–	–
<i>Sigara alternata</i> (Say)	X*	X	X*	X	X	X	X	X	X	X	X	X	X*	–
<i>S. bicoloripennis</i> (Walley)	X*	X*	X*	–	–	X*	X*	X	X	X	X*	X*	X	–
<i>S. compressoidea</i> (Hungerford)	X	X*	X*	X	X	X*	X	X	X	X	X	–	X	–
<i>S. conocephala</i> (Hungerford)	–	X*	–	–	–	–	–	X	X	–	X	X	X	–
<i>S. decorata</i> (Abbott)	X	X*	X*	X	X	X*	X*	X*	–	–	–	–	–	–
<i>S. decoratella</i> (Hungerford)	X	X*	X*	X	X	X	X	X	X	X	X	X	X	X
<i>S. defecta</i> Hungerford & Sailer	–	–	–	–	–	– <sup>6</sup>	–	X	X	–	X	–	–	–
<i>S. dolabra</i> Hungerford & Sailer	–	X*	X*	X*	X*	–	X	X	–	–	X	–	–	–
<i>S. douglasensis</i> (Hungerford)	X*	X*	X*	X <sup>6</sup>	X	X*	X	X*	X	–	X	X*	–	–
<i>S. fallenoidea</i> (Hungerford)	–	–	–	–	–	–	–	X*	–	–	–	–	–	–
<i>S. gordita</i> (Abbott)	X*	X*	–	X	X*	X*	X* <sup>7</sup>	–	–	–	–	–	–	–
<i>S. grossolineata</i> Hungerford	X	X	X*	X	X*	X*	X	X	X	X	X*	–	–	–
<i>S. hubbelli</i> (Hungerford)	–	X	–	–	X*	–	–	X	–	–	–	–	–	–
<i>S. johnstoni</i> Hungerford	X*	X*	–	X*	X*	X*	X*	X	X	X	X*	–	–	–
<i>S. knighti</i> Hungerford	X*	–	X*	–	–	–	–	X	X	X	X	–	–	–
<i>S. lineata</i> (Forster)	–	–	–	–	X*	–	–	X	X	–	X*	–	–	–
<i>S. mackinacensis</i> (Hungerford)	X*	X	–	X*	X	X*	X*	X	X	X	X*	–	–	–
<i>S. macropala</i> (Hungerford)	X	X*	–	X	X*	X	X	–	X*	X*	X*	–	X <sup>8</sup>	–
<i>S. mathesoni</i> Hungerford	X*	X*	–	X*	X	–	X	X	–	–	X	X*	X	–
<i>S. modesta</i> (Abbott)	X*	X	X*	X	X	X*	X	X	X*	–	–	–	–	–

Continued

Table 1. Continued.

Species	ME	NH	VT	MA	CT	RI	NY	ONT	QUE	NB	NS	PEI	NFL	LB
<i>S. mullettensis</i> (Hungerford)	X	X	X*	–	X	X	X	X	X	X	X*	–	–	–
<i>S. ornata</i> (Abbott)	X	X*	X*	X	X	X	X	X	X	X	–	–	–	–
<i>S. penniensis</i> (Hungerford)	X*	X*	X*	–	X*	X	X	X	X	X	X*	X	X	X*
<i>S. quebeckensis</i> (Walley)	–	X	X*	–	X	X*	X*	–	X	–	–	–	–	–
<i>S. signata</i> (Fieber)	X	X	X*	X	X	X	X	X	X	X	X*	X	X	X
<i>S. solensis</i> (Hungerford)	X <sup>9</sup>	X	X*	–	X	–	X	X	X	X	X*	X	–	–
<i>S. stigmatica</i> (Fieber)	– <sup>7</sup>	X*	–	X*	X*	–	X*	–	–	–	–	–	–	–
<i>S. transfigurata</i> (Walley)	X*	X*	–	X	–	–	–	X	X	–	–	–	–	–
<i>S. trilineata</i> (Provancher)	X*	X*	X*	X*	–	–	–	X	X	X	X*	–	X	X*
<i>S. variabilis</i> (Hungerford)	X*	X*	X*	–	X	X*	X*	X	X	X	X*	X	–	–
<i>S. virginiensis</i> Hungerford	–	X	–	–	X*	X*	X*	–	–	–	–	–	–	–
<i>S. zimmermanni</i> (Fieber)	X	–	–	X	X	–	X	–	–	–	–	–	–	–
<i>Trichocorixa borealis</i> Sailer	–	–	X*	–	–	–	–	X	X	–	–	–	–	–
<i>T. calva</i> (Say)	–	X*	X*	–	X*	X*	X	X	–	–	–	–	–	–
<i>T. louisianae</i> Jaczewski	–	X	–	X	X	X*	X	–	–	–	X <sup>10</sup>	–	–	–
<i>T. macrocephala</i> (Kirkaldy)	–	X	–	X*	X*	X*	X	X*	–	–	–	–	–	–
<i>T. sexcincta</i> (Campion)	X*	X*	X*	X <sup>11</sup>	X	X*	X <sup>11</sup>	X <sup>11</sup>	X <sup>11</sup>	–	X	X*	X	X*
<i>T. verticalis verticalis</i> (Fieber) <sup>12</sup>	X	X	–	X	X	X	X	–	X <sup>13</sup>	X*	X*	X*	X <sup>13</sup>	X*

<sup>1</sup> The species of *Dasycorixa* and *Glaenocorisa* are mainly pelagic plankton feeders, and are not necessarily caught in sampling done from shorelines. Therefore, the records of these species are rather scattered.

<sup>2</sup> As *Dasycorixa* sp. in Larson and Colbo (1983).

<sup>3</sup> Reported for QUE by Hungerford (1948), Lansbury (1955), Henry and Froeschner (1992) and for NFL by Larson and Colbo (1983) with the synonymic name *G. quadrata* Walley (synonymy established by Ossiannilsson (1960)). Generally considered as a subspecies of *G. propinqua* (Fieber), but raised to species rank by Jansson (2000) because the two are sympatric in Scotland (Jansson 1986) and in northern Finland (unpublished data). Also Ossiannilsson (in Lindroth and Ball (1969)) took the same attitude although he did not officially propose *G. cavifrons* as a separate species.

<sup>4</sup> Reported for NY by Hungerford (1948), but not by Polhemus *et al.* (1988).

<sup>5</sup> Incorrect emendations as *H. harrisi* and *H. kennicotti* by Polhemus *et al.* (1988), see the Code, Art. 33 (d).

<sup>6</sup> Hungerford (1948) reported also one female from RI (also listed in Polhemus *et al.* (1988)), but this is an obvious misidentification and the specimen could not be located in the USNM (Coll. C. F. Baker).

<sup>7</sup> Specimen illustrated by Hungerford (1948) as closest to *S. stigmatica* in Plate XCIV from NY, Putnam, seems to be in fact *S. gordita*.

<sup>8</sup> Reported for NFL by Lansbury (1955) and Larson & Colbo (1983), but not by Polhemus *et al.* (1988).

<sup>9</sup> Reported for ME by Hungerford (1948), but not by Polhemus *et al.* (1988).

<sup>10</sup> A record from the Sable Island!

<sup>11</sup> As *T. naias* (Kirkaldy) by Sailer (1948) and Lansbury (1955).

<sup>12</sup> Reported by Polhemus *et al.* (1988) as *T. verticalis* (Fieber) for ME, NH, MA, CT, RI, NY and QUE, as *T. verticalis fenestrata* (Walley) for QUE, as *T. verticalis sellaris* (Abbott) for ME, NH, MA, RI, and NY, and as *T. verticalis verticalis* (Fieber) for NY, thus causing unnecessary confusion and incorrectly interpreting Sailer (1948) who clearly indicated that *T. verticalis* var. *sellaris* (Abbott, 1913) has no nomenclatural status.

<sup>13</sup> As *T. verticalis fenestrata* (Walley).

Many of these species are lacking from adjacent states or provinces, but can be expected to be found from them with more intensive collecting. Also, in this report I am only listing the states and the provinces, and the exact locality records will be shown in the maps in the forthcoming revision.

In the present paper I am reporting also those states and provinces for which I do not necessar-

ily have verified records. However, the record by Lansbury (1955) for *Arctocorisa sutilis* (Uhler) for Quebec (Great Whale River) is omitted because it is most likely a misidentification or mislabeling. The verified records for this species are limited to the Rocky Mountains and a few localities in northern Canada, the most eastern being from Saskatchewan.

In this context I also establish a new synonymy *Trichocorixa verticalis fenestrata* (Walley, 1930), which is considered a synonym of the nominate subspecies. There is a clear transitional zone from typical *T. verticalis verticalis* (Fieber, 1851) to *T. verticalis "fenestrata"* i.e. a cline in which the most northern populations differ to some degree from the southern populations.

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