

## THE CORIXIDAE (HEMIPTERA-HETEROPTERA) OF BRITISH COLUMBIA

I. LANSBURY<sup>1</sup>

## Introduction

Prior to this list nineteen species were recorded from British Columbia; twenty five are recorded here and three new species are described. Some of the records are from Hungerford (1948) and Lansbury (1955). The remainder are from material in the collections of the Department of Zoology at the University of British Columbia, Vancouver. Full descriptions of the species listed, excluding the new ones, can be found in Hungerford (1. c.).

## List of Captors

A.B.A.	A. B. Acton
L.D.A.	L. D. Anderson
K.F.A.	K. F. Auden
W.B.	W. Benedict
J.C.B.	J. C. Bradley
O.B.	Owen Bryant
E.R.B.	E. R. Buckell
D.C.B.	D. C. Buckland
B.C.	Bueno Coll
G.C.C.	G. C. Carl
N.C.	N. Carter
W.D.	W. Downes
J.F.	J. Fraser
A.N.G.	A. N. Gartrell
J. H.	J. Hart
J.K.J.	J. K. Jacob
H.B.L.	H. B. Leech
C.C.L.	C. C. Loan
V.Z.L.	V. Z. Lucas
J.A.M.	J. A. Munro
P.	Parshley
J.H.P.	J. H. Pepper
W.H.P.	W. H. Preece
G.G.E.S.	G. G. E. Scudder
G.S.S.	G. Stace Smith
G.J.S.	G. J. Spencer
A.T.	A. Thrupp
U.C.	Uhler Coll
P.N.V.	P. N. Vroom
J.B.W.	J. B. Wallis
J.W.	J. Waterfield
N.S.W.	N. S. Wright

## Species Recorded

*Cymatia americana* (Hussey)

Kamloops (G.J.S.); Brent Lake, Summerland (A.N.G.); Fort St. John (A.B.A.); Nulki Lake near Vanderhoof (J.A.M.). This species has also been collected in the North West Territory,

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Manitoba, Alberta, Saskatchewan and Alaska. Apparently not very common although widespread.

*Dasycorixa hybrida* (Hungerford)

Vernon (P.) (Hungerford, 1.c.).

*Corisella decolor* (Uhler)

Osoyoos (H.B.L.); Hope (L.D.A.). British Columbia forms the extreme northern limit of this species; it occurs abundantly in California, Utah, Nevada and Oregon.

*Callicorixa audeni* (Hungerford)

Kamloops (G.J.S.); Fraser Lake (G. J. S.); Chilcotin (G.J.S.); Nicola (G.J.S.); Australian (N.S.W.); Middy Valley, Merritt (K.F.A.); Oliver (W. D.); Williams Lake District (G.G.E.S.); Alkali Lake South of Clinton (G.G.E.S.); Soda Creek, to light (G.J.S.); Nulki Lake near Vanderhoof (J. A. M.); Downie Creek, Selkirk Mountains (J.C.B.); Prairie Hills (J.C.B.); Paxton Valley (A.T.); Kere-meos (C.C.L.); Westbank (A.N.G.); Jesmond (J. K. J.); Nr. Clinton (A.B.A.); Fort St. John (A.B.A.); 45 miles N. of Atlin (A.B.A.); Revelstoke. *Callicorixa alaskensis* (Hungerford)

Seymour Mountain 4,000 feet, Vancouver (H. B. L.); Masset, Q.C.I. (A.B.A.); 20 miles south of Port Clements, Q.C.I. (A.B.A.); Tlell, Q.C.I. (A.B.A.); Fort St. John (A.B.A.); Atlin (A.B.A.). Hungerford (1.c.) also lists B.C. but no locality is given. This species is most common in Alaska.

*Callicorixa vulnerata* (Uhler)

Saanich (W.D.); Milner (G.J.S.); Pond, Univ. B.C. (G.J.S.); Mission (W.D.); Point Grey (J.H.); Malahat (W.D.); Metchosin (W.D.); Bear Foot Mts. (B.C.); Peachland (A.N.G.); Penticton (A.N.G.); Port Clements, Q.C.I. (A.B.A.); Tlell, Q.C.I. (A.B.A.); Masset, Q.C.I. (A.B.A.); 20 miles south of Port Clements, Q.C.I. (A.B.A.). Recorded from scattered localities in the Western United States.

*Cenocorixa bifida* (Hungerford)

Kamloops (G.J.S.); Chilcotin (G.J.S.); Nicola (G.J.S.); Malahat (W.D.); Vernon (E.R.B., W.D.); 6 miles South of Clinton (G.G.E.S.); 149 mile lake, Cariboo (G.G.E.S.); Soda Creek, to light (G.J.S.); Milner (G.J.S.); Westwick Lake, Cariboo (G.G.E.S.); Riske Creek, North Range (G.G.E.S.); Boitano Lake, Cariboo (G.G.E.S.); Peachland (J.B.W.); Nulki Lake (J.A.M.); Westbank (A.N.G.); Summerland, Fish Lake (A.N.G.); Oliver (A.N.G.); Hope Mt., 4,500 feet (A.N.G.); Jesmond (J.K.J.); Minnie Lake (N.C.); Nicola (P.N.V.). This is an extremely common species over the Plateau region, most common in Montana in the United States.

*Cenocorixa utahensis* (Hungerford)

Vernon (W.D.); Windermere (O.B.); Copper Ht. (G.J.S.); Brent Lake, Summerland (A.N.G.); Penticton (A.N.G.). British Columbia seems to be the northern limit of this Corixid.

*Cenocorixa andersoni* Hungerford

Victoria (K.F.A.); Goldstream (K.F.A.). Not hitherto recorded from Canada; known only from Oregon and Washington where it is not very common.

*Cenocorixa expleta* (Uhler)

Kamloops (G.J.S.); 6 miles South of Clinton (G.G.E.S.); Riske Creek, North Range (G.G.E.S.). Not previously recorded from British Columbia; found most commonly in North Dakota and also known from Manitoba and Saskatchewan.

*Hesperocorixa laevigata* (Uhler)

Kamloops (G.J.S.); Vernon (W.D.); Pond, Univ. B.C. (V.Z.L.); Osoyoos (H.B.L.); Vancouver (H.B.L., G.J.S.); Nicola (G.J.S.); Metchosin (W.D.); Midday Valley, Merritt (K.F.A.); Mission (W.D.); Oliver (W.D.); Point Grey (J.H.); Alkali Lake South of Clinton (G.G.E.S.); Riske Creek, North Range (G.G.E.S.); Cariboo (G.G.E.S.); Peachland (J.B.W., A.N.G.,

H.B.L.); Chilliwack; Cranbrook (J.H.P.); Sahacks Lake (U.C.); Victoria, Swan Lake (A.B.A.). Apparently an abundant species in the lower part of the province. Found over most of the United States, but not very common along the Eastern seaboard; it has been recorded from Mexico.

*Hesperocorixa vulgaris* (Hungerford)

Oliver (W.D.); Williams Lake district (G.G.E.S.); Cranbrook (O.B.); Sooke (K.F.A.); Clinton district, Beaverdam Lake (H.B.L.). Seemingly on the edge of its distribution, this Corixid is found principally in Michigan and Minnesota and there are records for most of the United States.

*Hesperocorixa michiganensis* (Hungerford)

Saanich (W.D.); Chilcotin, Riske Creek (G.G.E.S.). Found in scattered localities across Canada, but not along the Eastern seaboard.

*Hesperocorixa atopodonta* (Hungerford)

Saanich (W.D.); Riske Creek, North Range (G.G.E.S.). A new record for British Columbia, this species is found most commonly in Michigan, Minnesota and Wisconsin.

*Arctocorixa convexa* (Fieber)

Revelstoke (Walley, 1936). Known in B.C. only from this locality. Found principally so far in Labrador.

*Arctocorixa subtilis* (Uhler)

Kamloops (G.J.S.); 45 miles N. of Atlin (A.B.A.). Not previously recorded from British Columbia. This *Arctocorixa* has a wide distribution extending from Alaska to Colorado.

*Sigara (Arctosigara) decoratella* (Hungerford)

Kamloops (G.J.S.); Lac la Jeune (A.C.T.); Smithers; Chilcotin (G.J.S.); Oliver (P.N.V.); Shafer Lake (J.A.M.); Nicola Lake (E.R.B.). Not a common species; the main centre of distribution is Michigan and Minnesota.

*Sigara (Arctosigara) penniensis* (Hungerford)

Prince Rupert (N.C.).

*Sigara (Vermicorixa) bicoloripennis*  
(Walley)

Chilcotin (G.J.S.); Cariboo, Westwick Lake (G.G.E.S.); Brent Lake, Summerland (A.N.G.). Found mainly in Manitoba, Michigan and Minnesota.

*Sigara (Vermicorixa) washingtonensis* Hungerford

Windermere (O.B.); Adams Lake (K.F.A.); Vernon (L.D.A., W.D.); Oliver (L.D.A.); Quesnel Lake (W.B.); Needles (H.B.L.); Mill Creek, Kelowna (A.N.G.). A fairly common species in British Columbia, although this province appears to be the northern limit.

*Sigara (Vermicorixa) grosslineata*  
Hungerford

Quesnel (G. J. S.); Burns Lake (G.J.S.). Not previously recorded from British Columbia. Recorded principally from Manitoba in Canada and over the greater part of the United States, but with few records for the seaboard areas.

*Sigara (Vermicorixa) solensis*  
(Hungerford)

Quesnel (G.J.S.); Shuswap (G.J.S.); Nulki Lake (J.A.M.); 16 Mile Lake (J.A.M.); Seymour Lake (J.A.M.). Not very common; has a discontinuous distribution over Canada and the United States.

*Sigara (Vermicorixa) omani*  
(Hungerford)

Metchosin (W.D.); Malahat (W.D.); Stanley Park (G.J.S.); Prince Rupert (N.C.); Saanich (W.D.); Chilliwack; Port Clements, Q.C.I. (A.B.A.). A common species. Distribution in the United States is confined to the western seaboard of Washington, California and Oregon.

*Sigara (Phaeosigara) dolabra*  
Hungerford & Sailer

Lagoon (G.C.C.). A new record for British Columbia. This is an exceedingly rare species. The distribution elsewhere is Minnesota, Michigan, Rhode Island and Newfoundland.

*Sigara (Vermicorixa) mulletensis*  
(Hungerford)

Chief Lake (J.A.M.). Found principally in Michigan and Minnesota.

*Cenocorixa hungerfordi* n. sp. Fig. 1  
Size: length 7.7 mm. to 8 mm.; width of head across eyes 2 mm. to 2.1 mm.

Colour: general facies light; pronotum crossed by 8 to 10 dark lines narrower than the pale interlineations, the median dark lines being broken in the centre of pronotum; claval pattern broken, vermiculate dark splotches with colour etched away from inner angle; corial pattern vermiculated dark splotches arranged in three indistinct longitudinal series; membrane and corium distinctly separated by pale smoky line; embolium, head and limbs pale, venter pale to black.

Structural characteristics: Head half as long as pronotal disk, interocular distance greater than the width of an eye (about 25%); vertex of male as seen from above produced slightly medianly beyond margins of eyes; facial hairs few, male fovea broad attaining margins of eyes; fovea well defined but not deep, overhung medianly by projection of vertex; pronotal disk with median carina visible on anterior fifth, moderately rastrate; hemelytra rugulose with few pale hairs; pruinose area of embolar groove posterior of nodal furrow subequal in length to that of claval suture; lateral lobe of prothorax elongate, slightly pointed distally; mesoepimeron narrow, osteole near tip; metaxyphus slightly longer than broad, pointed apically.

Front leg of female of typical shape, with about 19 hairs on lower palmar row.

Front leg of male: Pala slightly longer than broad at widest point; peg row broken, 12 pegs in basal portion, 3 large pegs separated from each other and those of the basal and

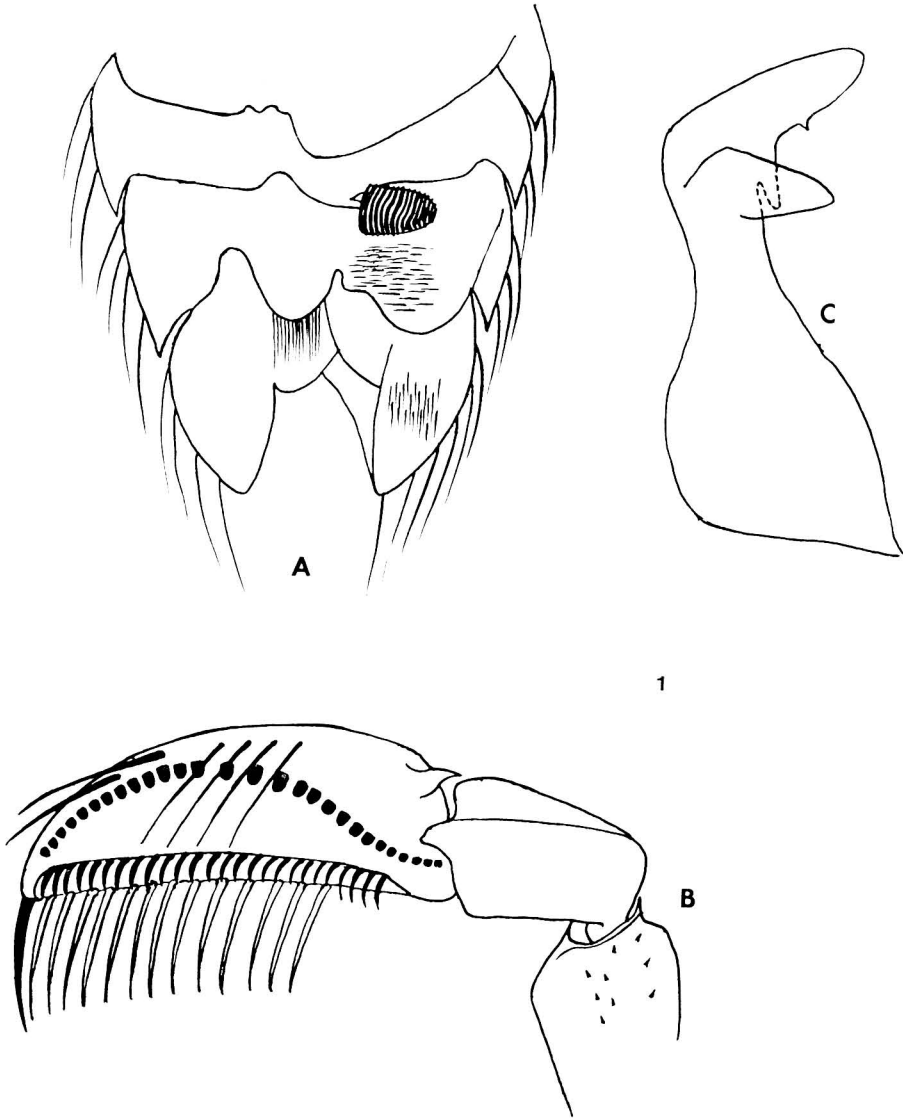


Fig. 1.--*Cenocorixa hungerfordi*. A Dorsal view of male abdomen. B Front leg of male. C Right clasper of male.

distal portion by  $1\frac{1}{2}$  to 2 times their own width; 12 pegs in distal portion. There are also 4 long hairs on upper part of median area of pala reaching lower palmar fringe of hairs. Pala without basal carina; tibia half as long as pala, with pronounced dorsal carina and no pad; femur fairly slender, widest just beyond median line distally, inner margin slightly curved with about 15 rows of stridulatory pegs on inner surface near base; middle and hind legs slender; middle femur spinose; hind femur with four teeth distally on inner margin of femur. Comparative measurements of segments, middle leg—femur, tibia, tarsus, claw: 100, 56, 37.5, 46.6; hind leg—femur, tibia, tarsus I, tarsus II: 100, 105, 126.1, 63.

Male asymmetry dextral, strigil large of about 13 irregular combs. Right clasper of male genital capsule bifurcate at tip, curved, distal tip with small pointed notch.

This species is very similar to *C. bifida*, from which it differs by the right genital clasper and strigil.

Described from four males and eight females; holotype, allotype and paratypes in the collection of the University of British Columbia. Dedicated to Prof. H. B. Hungerford the eminent Hemipterist.

Type series as follow: 4 ♂♂ 8 ♀♀  
Kamloops, 29 July 1945, G. J. Spencer.

*Cenocorixa columbiensis* n. sp. Fig. 2

Size: length 6.9 mm. to 7.1 mm.; width of head across eyes 2 mm.

Colour: general facies dark; pronotum crossed by 9 to 11 dark bands, rarely 8, about the same width as the pale interlineations, dark bands broken medianly; claval pattern, apical portion more or less regularly transverse, basal portion more irregular; corial pattern vermiculate dark figures with somewhat vague longitudinal series; membrane and corium clearly separated by a pale line; embolium pale to smoky; rear and fore

legs suffused with reddish brown, limbs a little paler; venter pale at margins, dark to smoky over remainder.

Structural characteristics: Head about half as long as pronotum; interocular space slightly wider than width of an eye; vertex of male produced a little beyond margins of eye as seen from above; facial hairs few; male fovea shallow almost attaining eyes laterally; pronotal disk with median carina visible on anterior third; pronotum and hemelytra rastrate, the latter with numerous pale hairs; pruinose area of the embolar groove posterior of the nodal furrow plainly longer than the claval suture; lateral lobes of prothorax about as long as basal width; mesoepimeron narrow with osteole near tip; metaxypus longer than broad with apex pointed.

Front leg of female: long and slender with 20 hairs on lower palmar row of pala.

Front leg of male: moderately broad, very similar to *C. andersoni* with about 29/30 pegs in a single curved row; pala without basal carina; tibia with pronounced dorsal carina and about half as long as pala; femur with a patch of 12 rows of stridulatory pegs on the inner surface; middle and hind legs slender. Comparative measurements of segments: middle leg—femur, tibia, tarsus, claw: 100, 58.3, 38.9, 46.3; hind leg—femur, tibia, tarsus I, tarsus II: 100, 116.6, 118.1, 60.6.

Male asymmetry dextral, strigil large of 12 regular combs; rear margin of the seventh abdominal segment of the male with three lobes; right clasper of male not bifurcate at tip; seventh ventral abdominal segment of female broadly incised at tip.

This species can be separated from the remainder of the genus by the male genitalia, the number of dark lines on the pronotum and the fact that the hind tibia and tarsus I are

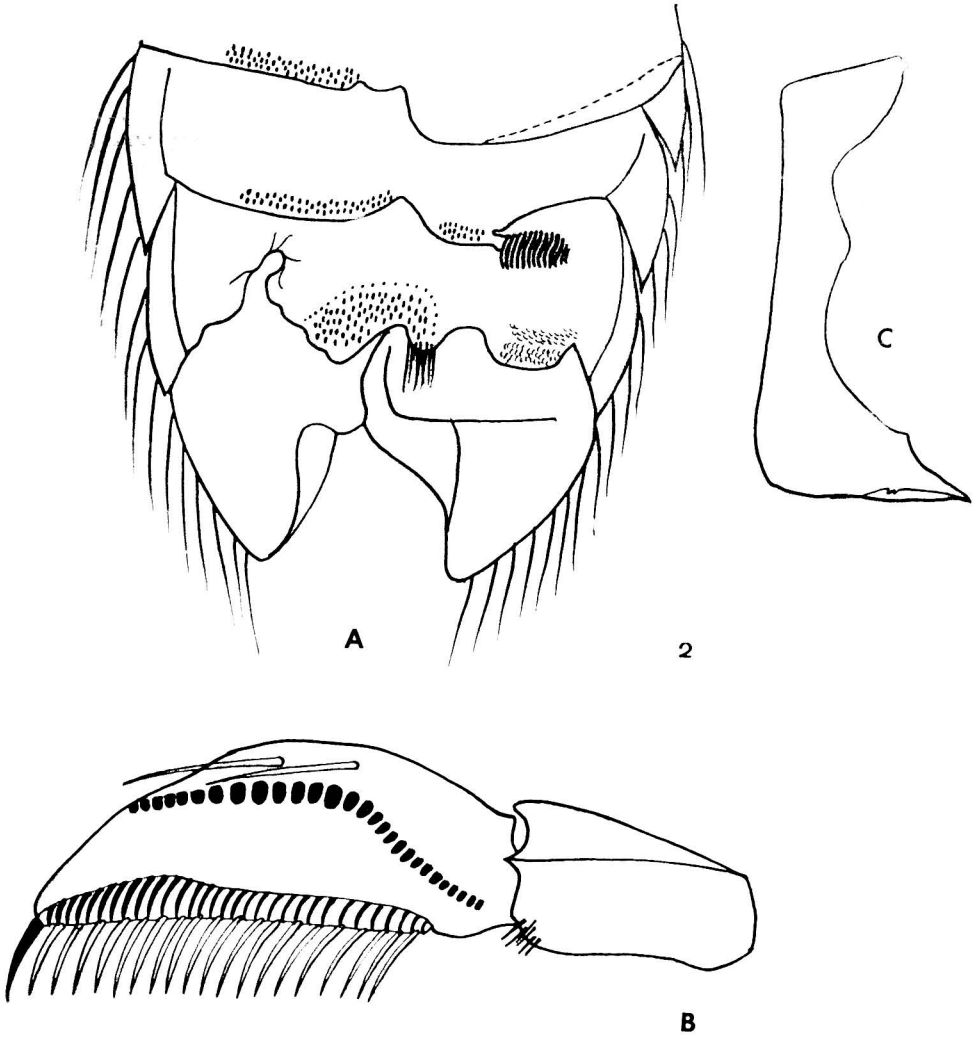


Fig. 2.—*Cenocorixa columbiensis*. A Dorsal view of male abdomen.  
B Front leg of male. C Right clasper of male.

almost the same length whereas in *C. andersoni* tarsus I is considerably longer than the tibia.

Described from eight males and twelve females. Holotype, allotype, and paratypes in the collection of the University of British Columbia.

Type series as follows: 6 ♂♂ 6 ♀♀, Pond, Univ. Brit. Col., 12 October 1928 (G. J. Spencer); 3 ♀♀, *id.*, 11 October 1928 (V. Z. Lucas); 1 ♂ 1 ♀, *id.*, 12 October 1928 (J. Waterfield); 1 ♀, Metchosin, 30 August 1919 (W. Downes); 1 ♂, Vancouver, 27 March 1929, 1 ♀, *id.*, 10 October 1925 (P. N. Vroom).

*Cenocorixa downesi* n. sp. Fig. 3

Size: length 7.5 mm.; width of head across eyes 2.5 mm.

Colour: general facies light brown; pronotum crossed by 7 dark lines about half as wide as pale interlineations, median ones forked in the centre; claval pattern irregularly transverse, the dark pigment being etched away at the apical end; corial pattern with a longitudinal stripe along the outer margin and two incipient stripes along the median and inner margins; membrane separated from the corium by a distinct smoky line; membrane with an indistinct vermiculate pattern; embolium pale, venter dark except at margins, limbs pale.

Structural characteristics: head half as long as pronotum, interocular space slightly wider than the width of an eye; vertex of male slightly produced beyond margins of eye as seen from above; facial hairs very few, male fovea shallow almost attaining lateral margins of eye; pronotal carina visible only on anterior fifth; pronotum and hemelytra moderately rastrate, hemelytra with numerous pale long hairs; pruinose area of the embolar groove posterior of the nodal

furrow 25 per cent longer than that of the claval suture; lateral lobe of the prothorax one third longer than broad at widest point, tip truncated; mesoepimeron narrow with osteole near tip; metaxyphus longer than broad, apex pointed.

Front leg of male: pala twice as broad as long, widest at median line; 32 pegs in a curved continuous line; tibia two thirds as long as pala, with a pronounced dorsal carina; femora nearly twice as long as tibia, with a patch of about 12 rows of stridulatory pegs on the inner surface and an irregular row of small spines from the stridular patch to the apex of the femora; middle and hind legs more robust than other species in the genus. Comparative measurements of segments, middle leg: femora, tibia, tarsus, claw: 100, 60.9, 38.7, 36; hind leg: femora, tibia, tarsus I, tarsus II: 100, 100, 127.6, 54.6.

Male asymmetry dextral, strigil large of 15 regular combs; rear margin of the seventh abdominal segment rather similar to that of *C. andersoni*, differing in that just sinistral of the median lobe there is a small projection basally. On the dextral side is a dense patch of hairs produced inwardly. Right clasper of the male not bifurcate at the tip.

This species can be separated from the others of the genus by the shape of the right genital clasper and the configuration of the seventh abdominal segment, and also by the fact that the hind tibia and femora are the same length.

Known only by the male type from Stanley Park collected by T.T.W.M., 8 October 1925. Type in the collection of the University of British Columbia. Dedicated in honour of W. Downes who in his life time did so much to advance our knowledge of the Hemiptera of British Columbia.

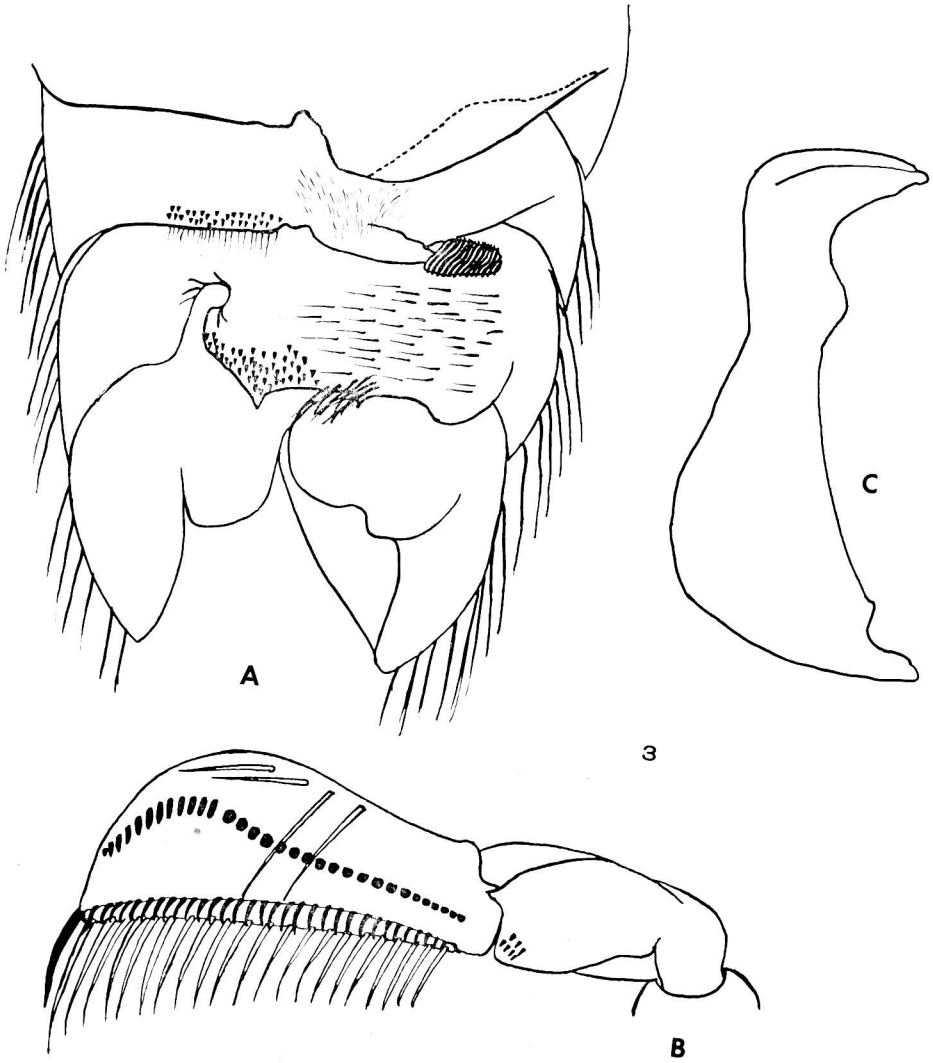


Fig. 3.—*Cenocorixa downesi*. A Dorsal view of male abdomen. B Front leg of male. C Right clasper of male.



TABLE I—Distribution of Corixid species in the Pacific northwest and Alberta exclusive of new species.

	Alaska	B.C.	Alta.	Wash.
<i>Cymatia americana</i> .....	X	X	X	
<i>Trichocorixa naias</i> (Kirk.) .....			X	
<i>Corisella decolor</i> .....		X		
<i>C. inscripta</i> (Uhler) .....				X
<i>C. audeni</i> .....	X	X	X	X
<i>Callicorixa alaskensis</i> .....	X	X	X	X
<i>C. vulnerata</i> .....	X	X		X
<i>C. producta norvikensis</i> Hung. ....	X			
<i>Cenocorixa bifida</i> .....		X	X	
<i>C. dakotensis</i> (Hung.) .....			X	
<i>C. utahensis</i> .....		X	X	
<i>C. andersoni</i> .....		X		X
<i>C. wileyae</i> Hung. ....				X
<i>C. expleta</i> .....		X		
<i>Hesperocorixa laevigata</i> .....		X		X
<i>H. vulgaris</i> .....		X	X	X
<i>H. michiganensis</i> .....		X		
<i>H. atopodonta</i> .....		X		X
<i>H. obliqua</i> (Hung.) .....	X			
<i>Arctocorixa convexa</i> .....		X	X	
<i>A. sutilis</i> .....	X	X	X	
<i>A. chanceae</i> Hung. ....	X			
<i>Dasycorixa hybrida</i> .....		X	X	
<i>Sigara conocephala</i> (Hung.) .....			X	
<i>S. decoratella</i> .....	X	X	X	
<i>S. penniensis</i> .....		X		
<i>S. bicoloripennis</i> .....		X		
<i>S. alternata</i> (Say) .....			X	X
<i>S. washingtonensis</i> .....		X	X	X
<i>S. solensis</i> .....		X		
<i>S. mathesoni</i> Hung. ....			X	
<i>S. omani</i> .....		X		
<i>S. mulletensis</i> .....		X		
<i>S. grosslineata</i> .....		X		
<i>S. dolabra</i> .....		X		

### Distribution

The distributions of 35 species in the Pacific northwest and Alberta are summarised in Table I.

Of the species recorded only *Corisella audeni* and *Callicorixa alaskensis* are common to all four areas. The large number of species recorded from British Columbia must in part be due to the fact that there is a wide variety of habitats and climates enabling such genera as *Corisella*, *Arctocorixa* and *Dasycorixa* to occur although none of these genera are very abundant. It must, however, be borne in mind that great areas of this province have never been collected.

The known Corixids of British Columbia can be divided into four categories according to their distribution in America north of Mexico.

I. Species principally confined to

the western seaboard. At this stage it is not possible to state definitely that British Columbia forms the northern limit of distribution for group A; however, the range of group B is known to extend into Alaska:

#### Group A

*C. decolor*  
*C. utahensis*  
*C. bifida*  
*C. andersoni*  
*S. washingtonensis*  
*S. omani*

#### Group B

*A. sutilis*  
*C. audeni*  
*C. vulnerata*

II. Species with a predominantly trans-Canadian distribution:

*A. convexa*

*C. americana*

III. Species distributed across Canada, and north central plains of the United States:

*C. alaskensis*  
*H. vulgaris*  
*H. michiganensis*  
*H. atopodonta*

*S. decoratella*  
*S. penniensis*  
*S. bicoloripennis*  
*S. solensis*  
*S. mulletensis*

IV. Species recorded from most of Canada and found in most of the United States:

*H. laevigata*

*S. grosslineata*

The remaining three species, *D. hybrida*, *S. dolabra* and *C. expleta*, are difficult to comment upon regarding their distribution because of the lack of data.

#### Acknowledgements

I wish to acknowledge the assistance of Prof. H. B. Hungerford of the University of Kansas for help in the determination of certain species of *Cenocorixa* and *Sigara dolabra*. I also wish to thank Dr. G. G. E. Scudder, of the Department of Zoology at the University of British Columbia, for allowing me to examine the University collections and for reading and criticising these notes.

#### References

- Hungerford, H. B., 1948. The Corixidae of the Western Hemisphere, (Hemiptera). Univ. Kansas Sci. Bull. Vol. 32: 1-827.  
 Lansbury, I., 1955. Distributional Records of North American Corixidae (Hemiptera-Heteroptera). Can. Ent. LXXXVII: 474-481.  
 Walley, G., 1936. New North American Corixidae with notes. Can. Ent. LXVII: 62.

### THE BLACK WIDOW SPIDER, *LATRODECTES MACTANS* FABR., IN VANCOUVER

Spiders of many shapes and sizes are sent in to the Department of Zoology throughout the year by fearful citizens with enquiries as to their propensity for killing human beings: I have always told them that no deadly poisonous spider occurs in Vancouver or in the wet coastal region.

In the mid 1950s a dead specimen in very poor condition was sent in which resembled a Black Widow except that the abdomen was conspicuously marked with pale bands, very much like those of a typical male *L. mactans*, in contrast to all those females I have seen in the dry belt, those from Davis, California and those from Victoria, whose abdomens were totally black.

In December, 1959 when checking the low crawl space under a small house in east Vancouver for termite damage, I found 2 sprawling webs of coarse silk and 2 mature female spiders which were undoubtedly *mactans*, with pale linear markings on the dorsum of the abdomen: they ran into holes from which I failed to retrieve them.

In January, 1960 I was assessing termite damage in the basement of a

large house on Granville Street south and found a female *mactans* with pale markings in a typical coarse web, between the edge of a carpet and the wall, just under the edge of a Hollywood bed on which 3 small children and a dog were accustomed to play; nearby was a male in its much smaller web; both were in a position where they could easily have been squashed by a child. Both were captured and brought to the laboratory; the female soon ate the male and in time became coal black except for one small pale spot on the dorsum of the abdomen.

Hitherto I have always given the distribution of the Black Widow in British Columbia as the dry belt of the Interior and the drier sections of Vancouver Island from Victoria to Nanaimo, and on the dry Gulf Islands; this distribution will have to be revised to include at least Vancouver in the lower mainland. If it increases in Vancouver it will constitute a definite hazard and the public will have to be alerted to watch out for it.

—G. J. Spencer, University of British Columbia, Vancouver.