

SCIENTIFIC NOTE

New waterboatmen records for Western Canada (Hemiptera: Corixidae)

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ABSTRACT— *Trichocorixa verticalis* (Fieber) is reported for the first time from the mainland of British Columbia and the subspecific assignment is discussed. Based on specimens in the Spencer Entomological Museum, one provincial record and one territorial record are added to the recent checklist of Canadian Hemiptera.

During recent collecting trips in the Lower Mainland of British Columbia (BC), Canada, we found a population (both immatures and adults) of *Trichocorixa verticalis* (Fieber). Previously, *T. verticalis* was known in BC only from three island localities: two on Vancouver Island and one on Thetis Island (Scudder 1977). A fourth island record can be added to these: Prevost Island, salt marsh pond, 10.vii.1986, J.D. Reynolds, 1 male, 2 females, Spencer Entomological Museum.

Outside of BC, *Trichocorixa verticalis* has a widespread distribution. Two subspecies occur on each of the east and west coasts of North America with a fifth subspecies broadly distributed through the central plains (Sailer 1976). The subspecies *T. v. californica* Sailer was described based on specimens from central California (Sailer 1976) and its known distribution was subsequently extended north through Oregon and Washington (Stonedahl & Lattin 1986). All previous BC records have been attributed to this subspecies (Scudder 1977). *Trichocorixa verticalis californica* is listed as potentially rare or endangered in British Columbia (Scudder 1994) and is considered a species of special concern in the Georgia Depression Region (Scudder 1996).

The mainland *Trichocorixa* specimens were collected in Delta, south of Vancouver, from a ditch on the north side of Deltaport Way in early October 2003 and again in late May 2004. The ditch runs inland from the coast and connects at its

coastal end to a second ditch that runs parallel to and just inland of the coastal dike. In the October survey, semi-quantitative data were collected between 1.3 km and 3.7 km inland from the dike. The density of *T. verticalis* was found to drop sharply beyond 1.8 km and no specimens were collected more than 2.2 km from the dike. In May, we extended the surveyed area to the coastal dike; *T. verticalis* was found at all sites between 0 and 1.3 km inland.

While the assignment of the Delta specimens to *T. verticalis* was straightforward, the subspecific assignment was not. In his key to subspecies of *T. verticalis*, Sailer (1976) deals separately with female and male specimens. Based on those keys, our female specimens are *T. v. californica* but our male specimens are *T. v. verticalis* (Fieber). The range for *T. v. verticalis* extends along the coast from Maine to Mexico and includes the West Indies (Sailer 1976). In Sailer's key, a critical character for males is the ratio of the length of the closest separation of the eyes (IO) to the length of the hind margin of the eye (L_e). In *T. v. californica* the ratio is greater than or equal to one; the ratio is less than one in *T. v. verticalis*. In our specimens, IO: L_e is less than one. In order to check Sailer's key, this ratio was measured for two male paratypes of *T. v. californica* (CA, San Mateo Co., Moss Beach, 4.vii.1929, R.L. Usinger) and for two male specimens of *T. v. verticalis* (Bermuda Island, Spittal Pond, 10.viii.1940, G. Kelly); all four specimens are in the Essig Museum at the University

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of California Berkeley. These four specimens fulfill Sailer's criteria.

In a further effort to identify our specimens, we examined the left and right claspers from one of the male specimens. Comparison of these claspers with the drawings for the various species of *Trichocorixa* in Sailer (1976) showed the best agreement between our specimen and *T. verticalis*. However, within the subspecies of *T. verticalis*, the claspers of our specimen are in poorest agreement with those shown for *T. v. californica*; they are in much better agreement with those of the three more easterly subspecies.

We rechecked the identification of all of the BC *Trichocorixa* specimens in the Spencer Entomological Museum (three localities with a total of two males, five females and one immature). The five female specimens key out to *T. v. californica*. One of the males is teneral and is partially collapsed; it cannot be run through the key. The second male is damaged but the ratio of IO: L_e can be measured and is less than one, in agreement with the Delta specimens. Thus at least one of the male *Trichocorixa* specimens previously collected in BC also does not fit Sailer's description of *T. v. californica*. It is unclear whether the definition of *T. v. californica* needs to be broadened to account for the geographical variation represented by the BC specimens or if the BC specimens belong to a different subspecies. A re-examination of the whole question of subspecific designations for *T. verticalis* is

needed. In view of the uncertainty in assigning subspecies to the BC specimens, we prefer to leave the determination as simply *T. verticalis*.

In addition to *T. verticalis*, we collected four other species of corixids from the ditch in Delta: *Cenocorixa blaisdelli* (Hungerford), *Corisella inscripta* (Uhler), *Hesperocorixa atopodonta* (Hungerford) and *Sigara omani* (Hungerford). *Cenocorixa blaisdelli* is listed as potentially rare or endangered in British Columbia (Scudder 1994) and *Corisella inscripta* is listed as rare or very local in occurrence in Canada (Maw *et al.* 2000). These records highlight the importance of surveying these often overlooked habitats. Voucher specimens for all of these records are in the Spencer Entomological Museum.

Examination of the corixids in the collection at UBC showed that two entries were omitted from the recent Checklist of Hemiptera of Canada and Alaska (Maw *et al.* 2000), one each for BC and NT, based on the following records:
***Hesperocorixa minorella* (Hungerford):** BC, Banks Is., Kooryet Bay, sphagnum bog, 11.viii.1986, G.G.E. Scudder, 1 male, 4 females; BC, Diana L., sphagnum bog, 14.viii.1986, G.G.E. Scudder, 2 males.
***Sigara lineata* (Forster):** NT, Hay R., Mackenzie Hwy., 20.vii.1961, T.G. Northcote, 1 male, 2 females.

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