

NOTE

Livilla variegata (L w) (Hemiptera: Psyllidae) in British Columbia: First Western
North American Records of a Palearctic Psyllid

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The psyllid, or jumping plant louse, *Livilla variegata* (L w) belongs to the family Psyllidae, subfamily Psyllinae (Burckhardt and Ouvrard 2012). It is considered native to southern or southwestern Europe and the Alps, but adventive in Central Europe and Great Britain (Malenovsk y and Kment 2004, Malenovsk y and Lauterer 2012, Ouvrard et al. 2015). Its country-level distribution is available from Psyl'list (Ouvrard 2016). The adult (Fig. 1) can be identified

from the descriptions by Hodkinson and Hollis (1980, 1987).

Livilla variegata specializes on species of *Laburnum* (Fabaceae) (Hollis 1978; Hodkinson and Hollis 1980, 1987; Wheeler and Hoebeke 2005; Hodkinson 2009), a small genus of genistoid legumes (Fabaceae: Papilionoideae) native to the Mediterranean region and adjacent Asia (Everett 1981, LPWG 2013). The introduction of laburnum nursery stock apparently led to the



Fig. 1. *Livilla variegata* on laburnum; courtesy of Tristan Bantock. The wing venation is aberrant in displaying an extra cubitus (C_u).

psyllid's establishment in Britain (Hollis 1978, Smith et al. 2007) and parts of mainland Europe (Mifsud et al. 2010). In its adventive range, this univoltine species (Conci et al. 1993) typically is found in urban areas on *L. alpinum* (Mill.) J. Presl and *L. anagyroides* Medik. in gardens, parks, and along roadways (Malenovský and Kment 2004, Mifsud et al. 2010, Malenovský and Lauterer 2011). *Livilla variegata* has spread rapidly in Britain (Hodkinson and Hollis 1980); in Switzerland, its northward spread might be the result of global climate change (Burckhardt and Mühlethaler 2003).

Records of *L. variegata* in North America are limited to the Avalon Peninsula of Newfoundland, Canada, on the Atlantic coast, where it was detected at six sites in and near the port city of St. John's in 2004 (Wheeler and Hoebeke 2005). Here we report the psyllid from British Columbia on ornamental laburnum in Canada's Pacific Northwest. Voucher specimens have been deposited in the University of Georgia Collection of Arthropods, Athens, GA.

Specimens examined.—CANADA: British Columbia: *Lower Mainland*: West Vancouver, Eagle Harbour, 49°21.627'N 123°15.463'W, 28 June 2010, 1♀; West Vancouver, Westport Rd., 49°21.362'N 123°16.710'W, 28 June 2010, 2♀; Surrey, Blackie Spit Park, 49°03.579'N 122°52.875'W, 24 June 2011, 3♂, 21♀; Lions Bay, 49°27.530'N 123°14.130'W, 27 June 2011, 9♂, 13♀.

Vancouver Island: Victoria, Burnside Rd. West & McKensie Ave., 48°27.741'N 123°24.172'W, 29 June 2010, 2♂, 17♀.

Livilla variegata is known in North America only from Canada: Newfoundland (St. John's and vicinity) in the Atlantic Provinces and British Columbia (Vancouver area and Victoria) in the Pacific Northwest. The Canadian distribution of certain other immigrant Palearctic

hemipterans, including the cicadellid *Typhlocyba plebeja* Edwards and mirid *Plagiognathus arbustorum* (F.), exhibit similar east-west disjunctions (Hamilton 1985, Scudder and Foottit 2006, Wheeler et al. 2006).

St. John's, Vancouver, and Victoria historically are among major Canadian ports that allowed the direct entry of Palearctic insects. As a specialist herbivore on laburnum trees, *L. variegata* probably was introduced with plant material, rather than solid ballast, as were many ground-inhabiting insects (Lindroth 1957). Mesophyll- and sap-feeding Hemiptera associated with woody plants are particularly well represented in Canada's immigrant insect fauna (Wheeler and Henry 1992; Scudder and Foottit 2006; Wheeler et al. 2006; Langor et al. 2009, 2014). Separate European introductions to eastern and western Canada might be responsible for the psyllid's current distribution in North America, rather than an introduction to British Columbia with plant material originating in Newfoundland. Even though the psyllid was detected only recently in Canada on the east (2004) and west (2010) coasts, it might be a long-established immigrant in Newfoundland; three other Palearctic psyllids collected in 2004 also represented new records for Newfoundland (Wheeler and Hoebeke 2005), suggesting an immature knowledge of that province's Psylloidea. An abundance of laburnums in Newfoundland and coastal British Columbia, where growing conditions for these plants are especially favorable (Boland 2009), might have facilitated the establishment of *L. variegata*. Laburnums are absent or uncommon elsewhere in Canada and are little planted in the United States (Everett 1981, Boland 2009).

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