

## Phytoprotection



# A note on *Systema frontalis* [Coleoptera : Chrysomelidae] adults on lowbush blueberry, *Vaccinium angustifolium* Une note sur la présence de *Systema frontalis* [Coleoptera : Chrysomelidae] adulte sur le bleuet nain, *Vaccinium angustifolium*

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Article abstract

*Systema frontalis*, the red-headed flea beetle, is reported for the first time feeding on the foliage of lowbush blueberry, *Vaccinium angustifolium*.

**A note on *Systema frontalis* [Coleoptera : Chrysomelidae] adults on lowbush blueberry, *Vaccinium angustifolium***

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*Systema frontalis*, the red-headed flea beetle, is reported for the first time feeding on the foliage of lowbush blueberry, *Vaccinium angustifolium*.

**[Une note sur la présence de *Systema frontalis* [Coleoptera : Chrysomelidae] adulte sur le bleuet nain, *Vaccinium angustifolium*]**

L'altise à tête rouge, *Systema frontalis*, est observée pour la première fois sur le bleuet nain, *Vaccinium angustifolium*.

Contrary to most Alticinae [Coleoptera : Chrysomelidae] which are specialized and well adapted to their host plant, members of some genera such as *Systema* are polyphagous (Jolivet 1988). Such is the case with *Systema frontalis* Fabricius, the red-headed flea beetle, which has been recorded from the provinces of Alberta, Manitoba, Ontario, Québec and New Brunswick in Canada (Campbell *et al.* 1989) as well as from several states in the U.S. (Chittenden 1902). This chrysomelid was first noted in Canada in 1882 feeding on leaves of grape (Chittenden 1902). Since then, it has been recorded in the adult stage, in this country and in the U.S., feeding on the leaves, flowers and fruits or in the larval stage feeding on the roots of a number of plants including aster (*Aster* sp.), wax and other beans (*Phaseolus vulgaris* L. and *Phaseolus* sp.), sugar beet (*Beta vulgaris* L.), beggar-ticks (*Bidens frondosa* L.), black bindweed

(*Polygonum convolvulus* L.), common burdock (*Arctium minus* (Hill) Bernh.), cabbage (*Brassica oleracea* L.), chrysanthemum (*Chrysanthemum* sp.), white clover (*Trifolium repens* L.), red clover (*Trifolium pratense* L.), corn (*Zea mays* L.), cranberry (*Vaccinium macrocarpon* Ait.), dahlia (*Dahlia variabilis* (Willd.) Desf.), daisy (*Chrysanthemum leucanthemum* L.), dogbane (*Apocynum cannabinum* L.), forsythia (*Forsythia* sp.), giant foxtail (*Setaria faberii* Herrm.), goldenrod (*Solidago* sp.), gooseberry (*Ribes* sp.), grapes (*Vitis* sp.), heal-all (*Prunella vulgaris* L.), helichrysum (*Helichrysum* sp.), hibiscus (*Hibiscus militaris* Cav.), Japanese honeysuckle (*Lonicera japonica* Thunb.), hop vines (*Humulus lupulus* L.), lady's-thumb (*Polygonum persicaria* L.), lamb's-quarters (*Chenopodium album* L.), lettuce (*Lactuca sativa* L.), wild lettuce (*Lactuca canadensis* L.), marsh mallow (*Althaea officinalis* L.), rose mallow (*Hibiscus* sp.),

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pear (*Pyrus communis* L.), pigweed (*Chenopodium* sp.), rough pigweed (*Amaranthus retroflexus* L.), ragweed (*Ambrosia trifida* L.), smartweed (*Polygonum pensylvanicum* L.), soybeans (*Glycine soya* (L.) Sieb. & Zucc.), strawberry (*Fragaria grandiflora* Ehrh.), sunflower (*Helianthus annuus* L.), sweet-potato (*Ipomoea batatas* (L.) Lam.), Canada thistle (*Cirsium arvense* (L.) Scop.), turnip (*Brassica rapa* L.), velvet-leaf (*Abutilon theophrasti* Medic), weigelia (*Weigelia florida* (Sieb. & Zucc.)), and zinnia (*Zinnia elegans* Jacq.) (Beirne 1971; Bouchard *et al.* 1993; Caesar and Ross 1929; Campbell *et al.* 1989; Chittenden 1902; Gibson 1921, 1934; Guppy 1958; Hawley 1922; Hudon and Martel 1980; Jacques and Peters 1971; Peters and Barton 1969; Rivard *et al.* 1975; Scammel 1917; Storch *et al.* 1979).

During the course of a study on the blueberry flea beetle, *Altica sylvia* Malloch, at Losier Settlement and Val Doucet near Tracadie (47°55' N, 64°95' W), in the northeastern part of New Brunswick, Canada, the presence of this red-headed flea beetle was noted on lowbush blueberry plants (*Vaccinium angustifolium* Ait.). Sweep nets, sticky traps, pitfall traps, and soil samples were used to monitor all the life stages of *A. sylvia* over 2 yr, from 23 May to 8 November

1994, and from 18 May to 25 October 1995 (Ouellette 1998). *S. frontalis* adults were observed on the plants both yr, from late July to the third wk of September, making numerous small holes in the leaves while feeding.

At present, we have limited information on the habits and hosts of *S. frontalis* in New Brunswick. It was first reported from the province in 1934 where it was found feeding upon the foliage of potato, turnip, beans and clover during a small local outbreak (Gorham 1935). In our fields, no larvae were found on the roots and the adult beetles, appearing after formation of the fruit, fed only on foliage. Consequently, because of relatively low population numbers (Table 1), the insect should not be of economic concern to blueberry growers of this province. Since this is the first reported case ever of the insect being recorded on blueberry plants, this occurrence is probably accidental, the primary hosts being a number of weeds such as asters, goldenrods, heal-all and lady's-thumb commonly found in blueberry fields of New Brunswick.

In our efforts to study the blueberry flea beetle adult populations, sticky traps were used on which a number of red-headed flea beetles were caught. This

**Table 1.** Number of *A. sylvia* and *S. frontalis* adults captured in sweep nets and on sticky traps at Val Doucet (1994, 1995), and Losier Settlement (1995), N.B.

Date <sup>a</sup>	Sweep nets		Sticky traps	
	<i>A. sylvia</i>	<i>S. frontalis</i>	<i>A. sylvia</i>	<i>S. frontalis</i>
Val Doucet (1994)				
August				
8	56	26	34	0
30	5	11	16	4
Val Doucet (1995)				
July				
27	0	1	0	1
Losier Settlement (1995)				
August				
8	31	1	0	0
17	0	0	0	1
23	0	0	1	1
September				
7	0	0	0	3
20	0	1	0	0

<sup>a</sup> Even though sampling was carried out over 5 months each year, only the dates where *S. frontalis* was captured are included in Table 1.

proved to be confusing because both insects are about the same size (4-4.5 mm). *S. frontalis* is dark black with a reddish-yellow head while *A. sylvia* is cupreous with metallic reflections. The glue of traps, however, darkens *A. sylvia* making both beetles almost similar in appearance, more so if the glue coating is thick and the head is not readily visible. Thus, unless care is taken when counting specimens on sticky traps, erroneous blueberry flea beetle population numbers will result.

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