



Introduced leaf beetles of the Maritime Provinces, 8: *Gastrophysa polygoni* Linnaeus (Coleoptera: Chrysomelidae)

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Abstract

The taxonomy, nomenclature, identification, introduction history, biology (reproduction, phenology, parasites, predators, host plants), biocontrol potential, susceptibility to pesticides, and economic importance of *Gastrophysa polygoni* (Linnaeus) in North America are reviewed. This information is part of continuing surveys and research on the adventive leaf beetles of Canada with particular reference to the Maritime Provinces. Known provincial records are confirmed and new locality records are reported for the widely distributed *G. polygoni*. The introduction timelines and dispersal of the beetle in North America are discussed. Clearly *G. polygoni* must have been established early in the settlement of North America because reports from the first half of the 19th century already indicated that the species was widely established and common in many locations in the northeastern United States and eastern Canada. *Gastrophysa polygoni* is beneficial when it feeds on weeds such as *Polygonum* spp., *Fallopia* spp., or *Rumex* spp. It can be a minor pest of cultivated buckwheat (*Fagopyrum* spp.)

Key words: Coleoptera, Chrysomelidae, *Gastrophysa polygoni*, Canada, Maritime Provinces, introduced species, adventive beetles, *Fallopia*, *Polygonum*, *Rumex*

Introduction

Gastrophysa polygoni (Linnaeus, 1758) is widely distributed throughout the Palearctic region from Europe east to Siberia, China, and Turkistan. An immigrant species in North America (Jolivet 1951a), it has been recorded across Canada from British Columbia to the Maritimes Provinces, but has not been found in Newfoundland and Labrador (LeSage 1991). In the United States it is found from Maine south to New Jersey and West Virginia, and west to Kansas, Nebraska, Wyoming, and Montana (Riley *et al.* 2003). From a biocontrol perspective *G. polygoni* can be considered beneficial when it feeds on weeds (*Fallopia* spp., *Polygonum* spp., *Rumex* spp.) or harmful when it damages cultivated buckwheat (*Fagopyrum* spp.).

Most of the information on the biology of *G. polygoni* in current publications is based on observations made in the 1980's in southern England (Sotherton 1982a, b; Sotherton *et al.* 1985). The present contribution includes an extensive literature review of Canadian, American, and European publications, and new information obtained from newly examined voucher specimens on the distribution of *G. polygoni* in the Maritime Provinces of Canada. Specifically, the early life history work by Whitehead (1919) in Nova Scotia and other studies by Johnson & Carrick (1950) and Chevin (1964, 1968) are reviewed.

Methods and conventions

Abbreviations of collections (following Evenhuis 2009) referred to in the text are: