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Introduced leaf beetles of the Maritime Provinces, 9: *Chaetocnema concinna* (Marsham, 1802) (Coleoptera: Chrysomelidae)

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Abstract

The taxonomy, nomenclature, identification, introduction history, biology, and economic importance of *Chaetocnema concinna* (Marsham, 1802) are reviewed, and its status as pest or beneficial insect is discussed. While it is the most important pest of sugar beet in Europe, its economic importance has not yet been demonstrated in North America.

Chaetocnema concinna is widely distributed in Nova Scotia and Prince Edward Island and presently known from only two localities in New Brunswick. On the basis of voucher specimens available, we determined that it was introduced in these provinces in the late 1980s. Since *C. concinna* is associated with many species of plants and can be either harmful or beneficial, we consider that "brassy flea beetle" is the most appropriate popular name available.

Key words: Chrysomelidae, *Chaetocnema concinna*, brassy flea beetle, Maritime Provinces, Canada, adventive species, introduced Coleoptera

Introduction

The Palaearctic flea beetle, *Chaetocnema concinna* (Marsham, 1802) was first reported in North America by Hoebeke (1980) and Hoebeke & Wheeler (1983) from a female specimen collected on sudangrass (*Sorghum sudanense* (Piper) Stapf) in a farm in Hingham, Massachusetts in 1979. Subsequently, LeSage (1990) reported it in Canada from specimens collected on Prince Edward Island and on Cape Breton Island in Nova Scotia. White (1996) added Texas to its distribution in his revision of the North American fauna. Recently, Wescott *et al.* (2006) reported it for the first time in Oregon.

Chaetocnema concinna has been found in association with a large number of host plants with preferences for species in the Polygonaceae (Newton 1929; Clark *et al.* 2004). In Europe, larvae have been found feeding on the roots of buckwheat (*Fagopyrum* spp.), hemp (*Cannabis sativa* L.), sorrel (*Rumex* spp.), and rhubarb (*Rheum* spp.), and adults have often been reported to damage seedlings of sugar beets (*Beta vulgaris* L.) (Clark *et al.* 2004).

Several common names have been applied to *Chaetocnema concinna*, although none has yet been officially recognized: the *brassy* or *tooth-legged turnip-flea* (Ormerod 1881; Curtis 1883), the *hop flea* or *brassy hop flea* (Ormerod 1881), the *brassy flea-beetle* (Carpenter 1916), *brassy tooth-legged flea-beetle* (Newton 1929), the *beet flea beetle* (Dunning 1975; Cooke 1992), the *mangel flea beetle* (Nature Navigator 2004), the *mangold flea beetle* (Vappula 1965; Thomas *et al.* 1968; Brocks 1980; Davidyan 2006), and the *sugarbeet flea* (Gadzhieva (2002). The name *brassy flea beetle* referring to its coloration seems the most appropriate to us since *C. concinna* is found on a large variety of host plants.

In the present paper, we review the literature related to the biology and economic importance of *C. concinna* on a global basis since most of the available information has been published in Europe. In addition, we will examine its introduction history in North America, and more specifically its distribution and dispersal in the Maritime Provinces of Canada.

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