



## The Derodontidae, Dermestidae, Bostrichidae, and Anobiidae of the Maritime Provinces of Canada (Coleoptera: Bostrichiformia)

CHRISTOPHER G. MAJKA

*Nova Scotia Museum, 1747 Summer Street, Halifax, Nova Scotia, Canada B3H 3A6. E-mail: c.majka@ns.sympatico.ca*

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## Abstract

The beetle families of the Bostrichiformia—the Derodontidae, Dermestidae, Bostrichidae, and Anobiidae – in the Maritime Provinces of Canada are surveyed. Seventy-four native and established introduced species are now known to occur including 30 found in New Brunswick, 65 in Nova Scotia, and 29 on Prince Edward Island. Seven species are newly recorded from New Brunswick, 24 from Prince Edward Island, and 37 from Nova Scotia for a total of 68 new provincial records. A total of 31 species are newly recorded in the Maritime Provinces as a whole, three of which, *Dinoderus minutus* (Fabricius), *Ernobius filicornis* LeConte, and *Ernobius granulatus* LeConte, are newly recorded in Canada. Two species, *Ptilinus pruinosus* Casey and *Caenocara oculata* (Say), are removed from the faunal list of New Brunswick, and one subspecies, *Attagenus unicolor unicolor* (Brahm), is removed from the faunal list of Prince Edward Island since no specimens or published records could be found to support their presence.

Additional records of six other exotic species intercepted at ports and points in the region, but not established here, are also reported. A specimen of the Palearctic *Ptinus bicinctus* Sturm collected in 1915 in Nova Scotia, establishes a new early timeline for this species in North America. The fauna of the region is distinguished by the very large proportion (37 of 74 species, i.e. 50%) of which is introduced. It is also distinguished by the large proportion (22 of 37 species, i.e. 60%) of the indigenous, native fauna that is apparently rare, perhaps as a result of the historical impact of forest management practices on these wood-boring, saproxylic species. The fauna is further evaluated from both zoogeographic and ecological perspectives.

**Key words:** Coleoptera, Bostrichiformia, Derodontidae, Dermestidae, Bostrichidae, Anobiidae, Maritime Provinces, Canada, biodiversity, introduced species, new records

## Introduction

The Derodontidae, Dermestidae, Bostrichidae, and Anobiidae are four of six families in the Bostrichiformia found in North America (no species of Jacobsoniidae or Nosodendriidae, the other two families in the Series, are found in the Maritime Provinces). These beetles are an ecologically diverse grouping in North America which include many wood borers in the Bostrichidae, Ernobiinae, Anobiinae, Ptilininae, and Xyletininae; species that feed on dried, stored product in the Dermestidae and Ptininae; other species associated with carrion in the Dermestidae; fungus feeding species in the Derodontinae and Dorcatominae; and predators of Homoptera in the Laricobiinae.

Because many beetles in this suite of families are in various ways synanthropic, the North American fauna also includes a substantial number of introduced species. Some of these we now know were introduced to the continent long ago. Archeological evidence shows that species such as *Dermestes lardarius* L., *Ptinus fur* L., and *Tipnus unicolor* (Piller & Mitterpacher) were already established in North America in the early to mid 17th century (Bain 1998, Prévost & Bain 2006). Continuing international commerce means that there are ongoing introductions and interceptions of many other species. For instance, 34 species of bostrichids have been intercepted at various ports or points in North America, but are apparently not established (Ivie 2002). Many species are of considerable economic importance as stored, dried-product pests; pests of wool, fur, hides, and other animal products; and as borers in dried wood, lumber, furniture, crating, hardwood floors, and other wood products.

Despite their economic importance, relatively little attention has been paid to these species in the Maritime Provinces of Canada. Bousquet (1991a) recorded only 10 species of dermestids, McNamara (1991a, 1991b) recorded 4 species of bostrichids, McNamara (1991c) and Bousquet (1991b) recorded 22 species of anobiids, and Bright (1991) recorded 4 species of derodontids in the Maritime Provinces for a combined regional fauna of 40 species. Recent research on the biological diversity of Coleoptera in the Maritime Provinces has revealed that the fauna of the region is substantially greater than previously documented. The present paper summarizes these findings and surveys the fauna within the region.