

The weevils (Coleoptera: Curculionoidea) of the Maritime Provinces of Canada, II: New records from Nova Scotia and Prince Edward Island and regional zoogeography

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Abstract—Seventy-nine species of weevils are newly reported in Nova Scotia and 66 species are newly reported on Prince Edward Island, increasing the known provincial weevil faunas to 244 and 92 species, respectively. Thirty-six species are recorded for the first time in the Maritime Provinces; of these, *Ceutorhynchus pallidactylus* (Marsham), *Listronotus dietzi* O'Brien, *Corthylus columbianus* Hopkins, and *Orchidophilus aterrimus* (Waterhouse) are recorded for the first time in Canada. *Orchidophilus aterrimus* has been collected only in exotic domesticated orchids and is not established in the wild. Fourteen species previously recorded on Cape Breton Island, Nova Scotia, are reported from the provincial mainland. Four species — *Curculio sulcatulus* (Casey), *Ceutorhynchus squamatus* LeConte, *Tachyerges niger* (Horn), and *Ips calligraphus* (Germar) — are removed from the faunal list of Nova Scotia, and three species — *Temnocerus cyanellus* (LeConte), *Curculio nasicus* (Say), and *Cryphalus ruficollis ruficollis* Hopkins — are removed from the faunal list of Prince Edward Island. The combined known weevil fauna of the Maritime Provinces now totals 290 species. The adequacy of collection effort is discussed and in Nova Scotia, where collection effort has been greatest, distribution patterns of selected groups of species are examined. Island faunas are discussed with respect to those of Prince Edward Island and Cape Breton Island. Regional biogeographic patterns of species are also discussed, including possible disjunct populations in Nova Scotia and species that may not have crossed the isthmus of Chignecto to colonize Nova Scotia. Attention is drawn to the long history of introduced species in the region and to ongoing introductions through an examination of the earliest records for the 60 introduced species found in the region.

Résumé—Cet article signale pour la première fois la présence de 79 espèces de charançons en Nouvelle-Écosse et de 66 espèces à l'Île-du-Prince-Édouard, augmentant ainsi à 244 et à 92 respectivement le nombre d'espèces de charançons présents dans ces provinces. On signale 36 espèce pour la première fois dans les provinces maritimes et 4 espèces, soit le *Ceutorhynchus pallidactylus* (Marsham), le *Listronotus dietzi* O'Brien, le *Corthylus columbianus* Hopkins et le *Orchidophilus aterrimus* (Waterhouse) pour la première fois au Canada. On a récolté le *Orchidophilus aterrimus* uniquement dans les orchidées domestiquées non indigènes; cette espèce n'est pas présente dans la nature. Quatorze espèces signalées auparavant à l'île du Cap-Breton (Nouvelle-Écosse) sont signalées dans la partie continentale de la province. Quatre espèces, soit le *Curculio sulcatulus* (Casey), le *Ceutorhynchus squamatus* LeConte, le *Tachyerges niger* (Horn) et le *Ips calligraphus* (Germar) ne figurent pas sur la liste faunique de la Nouvelle-Écosse et trois espèces, soit le *Temnocerus cyanellus* (LeConte), le *Curculio nasicus* (Say) et le *Cryphalus ruficollis ruficollis* Hopkins ne figurent pas sur celle de l'Île-du-Prince-Édouard. Le nombre total des charançons présents dans l'ensemble des provinces maritimes se situe maintenant à 290 espèces. L'article traite du niveau d'intensité des récoltes de

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charançons. En Nouvelle-Écosse, là où l'effort de récolte a été le plus important, on aborde les modèles de distribution de certains groupes d'espèces. On discute de la faune des îles relativement à celles de l'Île-du-Prince-Édouard et de l'île du Cap-Breton. On examine également les modèles biogéographiques régionaux des espèces, y compris la possibilité de populations isolées en Nouvelle-Écosse et d'espèces qui ne sont peut-être pas arrivées en Nouvelle-Écosse par l'isthme de Chignecto. On souligne la longue tradition d'introduction d'espèces dans la région ainsi que sa persistance jusqu'à aujourd'hui en examinant les premières signalisations des 60 espèces non indigènes que l'on trouve dans la région.

Introduction

Weevils *sensu lato* (Curculionoidea) are among the most diverse and abundant groups of beetles (Coleoptera). Over 60 000 species have been described worldwide. The families Nemonychidae, Anthribidae, Belidae, Attelabidae, Brentidae, Ithyceridae, and Curculionidae, which make up the superfamily Curculionoidea, together represent 3227 species in North America, 12.8% of the continent's beetle fauna (Marske and Ivie 2003). Bousquet (1991) recorded 893 species in Canada, 12% of the total Canadian beetle fauna.

Weevils are important members of many terrestrial and freshwater ecosystems. In addition to a robust native fauna, a substantial number of adventive species have become established in the Maritime Provinces, occasionally with deleterious economic consequences. A considerable number of species are of interest owing to both agricultural and forestry concerns.

Despite their importance, relatively little attention has been paid to weevils in Nova Scotia and Prince Edward Island. McNamara (1991*a*, 1991*b*, 1991*c*, 1991*d*) reported 146 species of weevils from Nova Scotia and 27 from Prince Edward Island. Bright (1976, 1981, 1993) treated particular subfamilies and genera, including information from specimens collected in the Maritime Provinces. Anderson (2002*b*) added information on six species introduced to Nova Scotia for biocontrol purposes. McCorkquodale *et al.* (2005) added 18 species to the Nova Scotia fauna based on specimens collected on Cape Breton Island. Majka *et al.* (2007*a*) add records of three introduced Apionidae found in the Maritimes. Recent collections as well as examination of material in existing collections have yielded records of many additional species. The present study reports new records of many species for both Nova Scotia and Prince Edward Island and takes the opportunity to briefly discuss and analyze the weevil fauna of the Maritime Provinces as a whole.

Methods and conventions

Codens (following Evenhuis and Samuelson 2006) of collections referred to in this study are as follows:

ACNS	Agriculture and Agri-Food Canada, Kentville, Nova Scotia
ACPE	Agriculture and Agri-Food Canada, Charlottetown, Prince Edward Island
AFC	Atlantic Forestry Centre, Canadian Forest Service, Fredericton, New Brunswick
CBU	Cape Breton University, Sydney, Nova Scotia
CGMC	Christopher G. Majka collection, Halifax, Nova Scotia
CMNC	Canadian Museum of Nature, Ottawa, Ontario
CNC	Canadian National Collection of Insects, Arachnids and Nematodes, Ottawa, Ontario
DHWC	David H. Webster collection, Kentville, Nova Scotia
GSC	Gary Selig collection, Bridgewater, Nova Scotia
INHS	Illinois Natural History Survey, Champaign, Illinois
JCC	Joyce Cook collection, North Augusta, Ontario
JOC	Jeffrey Ogden collection, Truro, Nova Scotia
JPC	Joseph Purcell collection, East Chezzetcook, Nova Scotia
NBM	New Brunswick Museum, Saint John, New Brunswick
NFC	Northern Forestry Centre, Canadian Forest Service, Edmonton, Alberta
NSAC	Nova Scotia Agricultural College, Bible Hill, Nova Scotia
NSMC	Nova Scotia Museum, Halifax, Nova Scotia
NSNR	Nova Scotia Department of Natural Resources, Shubenacadie, Nova Scotia
SMU	Saint Mary's University, Halifax, Nova Scotia

UPEI University of Prince Edward Island,
Charlottetown, Prince Edward Island

The number of specimens is indicated in parentheses. Where the number of specimens is not specified, it is assumed to be one. Where there are fewer than 10 records, all are reported. Where there are more than 10, a summary of specimens examined is given and the earliest collections are noted. The systematics employed reflect those of Arnett *et al.* (2002) except that, following Alonso-Zarazaga and Lyal (1999), the Apionidae are recognized as a family distinct from the Brentidae.

Results

In the course of ongoing research on the Coleoptera of the Maritime Provinces of Canada, 14 301 specimens of Curculionoidea originating in Nova Scotia and 1 226 specimens originating in Prince Edward Island (total = 15 527) were examined and identified. Additionally, published records of species of Nemonychidae, Anthribidae, Attelabidae, Rhynchitidae, Apionidae, Curculionidae, and Scolytidae from Nova Scotia in Bousquet (1991) were investigated to ascertain whether voucher specimens existed. Table 1 summarizes the weevil fauna of Nova Scotia and Prince Edward Island, additionally showing species reported in New Brunswick by Majka *et al.* (2007b) in order to facilitate an analysis of the fauna of the Maritime Provinces as a whole. In Nova Scotia, counties are grouped together in provincial subregions as follows:

- (a) Northern Shore (Cumberland, Colchester, Pictou, and Antigonish counties);
- (b) Cape Breton (Inverness, Victoria, Cape Breton, and Richmond counties);
- (c) Eastern Shore (Guysborough and Halifax counties);
- (d) South Shore (Lunenburg, Queens, Shelburne, and Yarmouth counties); and
- (e) Bay of Fundy (Digby, Annapolis, Kings, and Hants counties).

While these are simple approximations they do allow for a ready way to represent distributions that mirror (albeit imperfectly) some of the physiographic areas within the province.

Seventy-nine species are newly recorded in Nova Scotia, increasing the province's known weevil fauna to 244 species. On Prince Edward Island 66 species have been newly recorded, increasing the known weevil fauna of the

province to 92 species. Together with the 206 species reported in New Brunswick by Majka *et al.* (2007b), the combined weevil fauna of the Maritime Provinces is now known to be 290 species, of which 220 are Nearctic, 10 are Holarctic, 59 are Palearctic, and 1 is Oriental in origin. Specific accounts of species newly recorded (or deleted from the list of the region's fauna) follow.

Nemonychidae: Cimberidinae

Cimberis elongata (LeConte, 1876)

NOVA SCOTIA: Guysborough Co.: Seloam Lake, 2–15.vi.1997, D.J. Bishop, NSMC; **Halifax Co.:** Point Pleasant Park, 27.vi.2001 and 20.iv.2002, C.G. Majka, CGMC; **Lunenburg Co.:** Bridgewater, 16–19.vi.1965, B. Wright, (2), NSMC; **Queens Co.:** Black Duck Lake, 24.v.2003 and 18.vi.2003, P. Dollin, NSMC; Fifth Lake, 3.vi.2003, P. Dollin, NSMC; Tobeatic Lake, 15.v.2003 and 3.vi.2003, P. Dollin, NSMC.

Recorded in Canada from British Columbia, Manitoba, Ontario, and Quebec (Bright 1993); found throughout the eastern United States south to Texas (O'Brien and Wibmer 1982). Newly recorded in Nova Scotia. Adults have been found on *Pinus banksiana* Lamb., *P. strobus* L., and other pines (Pinaceae); larvae have been found on *P. banksiana* (Kuschel 1989). In Nova Scotia collected on *P. strobus*. Nemonychid adults and larvae feed on the pollen of pinecones (Anderson 2002a).

Cimberis pallipennis (Blatchley, 1916)

NOVA SCOTIA: Halifax Co.: Abraham's Lake, 14.v.–2.vi.1997 and 2–15.vi.2003, D.J. Bishop, NSMC; Point Pleasant Park, 16.v.2002, C.G. Majka, CGMC; West Chezzetcook, 31.v.1994, J. Purcell, JPC; **Lunenburg Co.:** Bridgewater, 30.vi.1965, 10–14.v.1965, and 15–20.v.1965, B. Wright, NSMC; **Queens Co.:** Tobeatic Lake, 15.v.2003, P. Dollin, NSMC.

Recorded in Canada in Alberta and Quebec (Bright 1993) and in the eastern United States south to North Carolina and Tennessee and west to New Mexico. Newly recorded in Nova Scotia and in the Maritime Provinces as a whole. Host plant associations are unknown (Kuschel 1989). In Nova Scotia found on *Picea rubens* Sarg. and *P. glauca* (Moench) Voss (Pinaceae).

Anthribidae: Anthribinae

***Allandrus populi* Pierce, 1930**

NOVA SCOTIA: Halifax Co.: south-end Halifax, 19.vi.2001, C.G. Majka, CGMC.

Found from Alaska to Quebec and in the contiguous United States from New Hampshire to Michigan and south to Arizona (Bright 1993). Newly recorded in Nova Scotia and in the Maritime Provinces as a whole. Reported from *Populus tremuloides* Michx. (Salicaceae) (Bright 1993).

***Eurymycter latifascia* Pierce, 1930**

NOVA SCOTIA: Queens Co.: Kejimikujik National Park, 23.viii.2001, B. Wright, NSMC.

Recorded from Ontario and Quebec south to New York (Bright 1993). Although McNamara (1991a) listed *E. latifascia* from Nova Scotia, it is not clear what the source of this report was. Bright (1993) did not record it from the Maritime Provinces and no prior specimens from Nova Scotia were found in any collection. Consequently the above report represents the first authenticated record from the province and in the Maritime Provinces as a whole. In Nova Scotia found by brushing lichens on tree trunks. Species of *Eurymycter* are known to feed on *Daldinia* spp. and *Hypoxylon* spp. fungi (Xylariaceae) (Valentine 1998).

***Trigonorhinus limbatus* (Say, 1826)**

NOVA SCOTIA: Kings Co.: Coldbrook, 29.viii.1984, B. Wright and J. Robinson, (2), NSMC; **Lunenburg Co.:** Kingsburg, 18.viii.1994, J. Ogden, NSNR; **Yarmouth Co.:** Tuskett, 1.vii.1940, F.T. Lord, ACNS.

Recorded in Canada from Alberta to Quebec and in the northern United States from Oregon and Washington to New Jersey (Bright 1993). Newly recorded in Nova Scotia. Adults breed in the heads of sneezeweed, *Helenium amarum* (Raf.) H. Rock, and various other Asteraceae (Bright 1993; Valentine 1998).

***Trigonorhinus sticticus* (Boheman, 1833)**

PRINCE EDWARD ISLAND: Kings Co.: Woodville Mills, 25.viii.2003, C.G. Majka, (2), CGMC.

Recorded in Canada from British Columbia and the Northwest Territories to Quebec (Bright 1993) and New Brunswick (Majka *et al.* 2007b); broadly distributed in the United States from California to Iowa and Florida (Bright 1993). Newly recorded in Prince Edward

Island. Associated with smut fungi (Ustilaginales) found on Poaceae such as corn (*Zea mays* L.), wheat (*Triticum aestivum* L.), and bluestem (*Andropogon* spp.) (Bright 1993).

***Euparius marmoreus* (Olivier, 1795)**

NOVA SCOTIA: Annapolis Co.: Middleton, 10.v.1910, F.C. Gilliatt, ACNS; **Kings Co.:** Berwick, 4.ix.1945, H.T. Stultz, ACNS; **Lunenburg Co.:** Bridgewater, 12.v.1965, B. Wright, NSMC.

Recorded in Canada from Manitoba to New Brunswick and throughout the eastern United States south to Florida and Texas (Bright 1993). Newly recorded in Nova Scotia. Uniquely among North American Anthribidae, *Euparius marmoreus* has been recorded as feeding on polypore fungi and is associated with those of the genera *Trametes*, *Megasporoporia*, *Trichaptum*, *Phlebia*, *Panis*, and *Pereniporia* (Polyporaceae) (Valentine 1998).

Attelabidae: Rhynchitinae

***Temnocerus cyanellus* (LeConte, 1876)**

NOVA SCOTIA: 12 specimens examined; the earliest record is from 1949 (**Halifax Co.:** Halifax, 14.vi.1949, K.D. Archibald, NSMC).

McNamara (1991b) and O'Brien and Wibmer (1982) listed this species from Prince Edward Island; however, Bright (1993) did not record it from there, nor have specimens from PEI been found in any collection. Accordingly it is removed from the faunal list of Prince Edward Island. Associated with species of *Salix* (Salicaceae), *Betula* (Betulaceae), and *Quercus* (Fagaceae) (Bright 1993).

***Auletobius cassandrae* (LeConte, 1876)**

NOVA SCOTIA: 38 specimens examined; the earliest record is from 1924 (**Annapolis Co.:** Annapolis Royal, 13.ix.1924, J.P. Spittal, ACNS). **PRINCE EDWARD ISLAND: Queens Co.:** Toronto, 19.viii.2002, C.G. Majka, CGMC.

In Canada found from Ontario to Newfoundland; found throughout the eastern United States south to Florida and Texas (Bright 1993). Newly recorded in Prince Edward Island. Feeds exclusively on *Comptonia peregrina* (L.) Coult. (Myricaceae) (Bright 1993).

Apionidae: Apioninae

Eutrichapion cyanitinctum (Fall, 1927)

NOVA SCOTIA: Colchester Co.: Bible Hill, 14.vi.2005, S.M. Townsend, (2), CBU; Bible Hill, 23.vi.2005, S.M. Townsend, CBU; **Halifax Co.:** Point Pleasant Park, 25.viii.2001 and 15.ix.2001, C.G. Majka, CGMC; Burnside, 22.iv.2003, C. Cormier, SMU. **PRINCE EDWARD ISLAND: Queens Co.:** Pinette, 24.vi.2003, C.G. Majka, CGMC.

Recorded from Alaska to Quebec, largely in northern localities, south to southern Manitoba (Bright 1993). Newly recorded in Nova Scotia and Prince Edward Island. Collected on *Astragalus* spp. (Fabaceae) (Bright 1993). In New Brunswick found on *Melilotus alba* Medik. (Fabaceae) (Majka *et al.* 2007b).

Trichapion centrale (Fall, 1898)

NOVA SCOTIA: Kings Co.: Kentville, 24.v.1999, S. Westby, ACNS.

Recorded from British Columbia to Ontario (Bright 1993) and in the northern United States from Washington to Wisconsin south to Arizona (O'Brien and Wibmer 1982). Newly recorded in Nova Scotia and in the Maritime Provinces. Bionomics of the species are unknown.

Fallapion pennsylvanicum (Boheman, 1839)

NOVA SCOTIA: Halifax Co.: Ketch Harbour, 3.viii.2002, C.G. Majka, CGMC; Point Pleasant Park, 15.viii.2000, 27.vi.2001, and 23.vi.2002, C.G. Majka, (11), CGMC; West Dover, 7.ix.2003, C.G. Majka, (10), CGMC; **Kings Co.:** Canard, 4.vii.1988, J.A. Adams, NSAC; **Pictou Co.:** Pictou Island, 14.vii.1998, J. Ogden, (2), NSNR; **Queens Co.:** First Christopher Lake, 18.viii.1994, J. Ogden, NSNR.

Recorded in Canada from British Columbia to Ontario (Bright 1993) and in New Brunswick (Majka *et al.* 2007b); widely distributed in the United States (O'Brien and Wibmer 1982). Newly recorded in Nova Scotia. Larvae have been found on *Cicuta maculata* L. (Apiaceae) and adults on *Nasturtium officinale* R.Br. (Brassicaceae) (Bright 1993). In Nova Scotia recorded almost exclusively in coastal locations, where adults have been found on *Ligusticum scoticum* L. (Apiaceae) and *Lathyrus japonicus* var. *maritimus* (L.) Kartesz & Gandhi (Fabaceae).

Coelocephalapion carinatum (Smith, 1884)

NOVA SCOTIA: Hants Co.: Maitland, 25.vi.2002, A.J. Hebda, (2), NSMC.

Recorded in Canada in southern Ontario (Bright 1993); widely distributed in the eastern United States south to Texas and Mexico (O'Brien and Wibmer 1982). Newly recorded in Nova Scotia and in the Maritime Provinces. Associated with *Desmodium* spp. (Fabaceae) (Bright 1993).

Coelocephalapion emaciipes (Fall, 1898)

NOVA SCOTIA: Colchester Co.: Shubenacadie, 29.viii.1997, J. Ogden, (2), NSNR.

Recorded in Canada in Ontario (Bright 1993); widely distributed in the eastern United States south to Texas and Mexico (O'Brien and Wibmer 1982). Newly recorded in Nova Scotia and in the Maritime Provinces. Possibly associated with *Desmodium* sp. (Bright 1993).

Curculionidae: Dryophthorinae

Sitophilus granarius (Linnaeus, 1758)

NOVA SCOTIA: 103 specimens were examined; the earliest record is from 1910 (**Annapolis Co.:** Granville Ferry, 10.v.1910, H.G. Payne, (4), NSAC). **PRINCE EDWARD ISLAND: Prince Co.:** Summerside, 20.vii.1992, J.G. Stewart, ACPE; **Queens Co.:** Charlottetown, vi.1975, viii.1975, and 25.xi.1994, L.S. Thompson, (11), ACPE.

In Canada this introduced Palearctic species has been recorded from British Columbia to Newfoundland (McNamara 1991c). McCorquodale *et al.* (2005) recorded it from Cape Breton Island; it is newly reported from the Nova Scotia mainland. Known in North America since before 1620 (Prévost and Bain 2006). This cosmopolitan pest feeds on a wide variety of stored grains and flour. The larvae develop inside grain kernels (Bousquet 1990).

Sitophilus oryzae (Linnaeus, 1763)

NOVA SCOTIA: Colchester Co.: Truro, 15.xii.1954, M.E. Neary, NSAC; **Cumberland Co.:** Parrsboro, 10.i.2000, J. Ogden, (8), NSNR; **Halifax Co.:** Dartmouth, 9.iv.1994, W. Hayward, (6), NSMC; Halifax, 16.viii.2000, K. Batherson, NSMC; **Kings Co.:** Kentville, 3.ii.1965, H.T. Stultz, (3), ACNS; **Pictou Co.:** MacLellans Brook, 17.i.2002, D. Routledge, (5), NSNR; MacLellans Brook, 25.viii.2002, E. Georgeson, (2), NSNR. **PRINCE EDWARD ISLAND: Queens Co.:** Charlottetown,

10.xi.1994, M.E.M. Smith, (5), ACPE; Cornwall, 24.iii.1998, M.E.M. Smith, (7), ACPE.

In Canada this introduced Palearctic species has been recorded from British Columbia to Newfoundland (McNamara 1991c). McCorquodale *et al.* (2005) recorded it from Cape Breton Island; it is newly reported from the Nova Scotia mainland. It is a pest of stored grain products (Anderson 2002b).

***Sphenophorus aequalis aequalis* Gyllenhal, 1838**

NOVA SCOTIA: Antigonish Co.: James River, 28.vi.1954, D.C. Ferguson, NSMC; **Kings Co.:** Grand Pre, 28.vii.2000, 22.ix.2002, and 25.ix.2002, S. Rigby, (6), ACNS; **Lunenburg Co.:** Upper Vaughn, 16.vi.1968, P. Doleman, NSMC; **Shelburne Co.:** Harper Lake, 5.vi.1979, J. Gilhen, NSMC.

Recorded in Canada from British Columbia to Quebec (McNamara 1991c); widely distributed in the United States (O'Brien and Wibmer 1982). Newly recorded in Nova Scotia and in the Maritime Provinces as a whole. Feeds on *Scirpus* spp. (Cyperaceae), including *S. validus* Vahl and *S. fluviatilis* (Torr.) Gray, as well as *Cyperus* and *Carex* spp. (Cyperaceae), agricultural plants such as *Zea mays* and *Panicum miliaceum* L. (Poaceae), and other members of the Poaceae such as *Setaria* spp. (Vaurie 1951).

***Sphenophorus costipennis* Horn, 1873**

NOVA SCOTIA: Kings Co.: Porter Point, 23.vii.1948, K.D. Archibald, NSMC; Sunken Lake, 26.vi.2003, D.H. Webster, DHWC. **PRINCE EDWARD ISLAND: Queens Co.:** Charlottetown, 28.vi.1978, L.S. Thompson, ACPE.

Recorded in Canada from British Columbia to New Brunswick (McNamara 1991c); widely distributed in the United States (O'Brien and Wibmer 1982). Newly recorded in Nova Scotia. Feeds on *Scirpus validus* and *Carex comosa* Boott (Vaurie 1951).

***Sphenophorus venatus venatus* (Say, 1831)**

NOVA SCOTIA: Halifax Co.: Petpeswick Inlet, 23.vi.1971 and 29.vii.1971, B. Wright, (13), NSMC; **Lunenburg Co.:** Cherry Hill Rd., 4.ix.1954, D.C. Ferguson, NSMC; Crescent Beach, 20.xi.1968, B. Wright, NSMC.

Recorded in Canada from Ontario to New Brunswick (McNamara 1991c); in the United States found primarily in the northeast and in

Minnesota and Florida (O'Brien and Wibmer 1982). Newly recorded in Nova Scotia. The preferred host is *Cyperus esculentus* L., but this species is also found on *Scirpus validus*, *Cynodon dactylon* (L.) Pers. (Poaceae), *Triticum aestivum*, and *Phleum pratense* L. (Poaceae) (Vaurie 1951).

***Sphenophorus zae* Walsh, 1867**

NOVA SCOTIA: Halifax Co.: Herring Cove, 28.vii.2002, C.G. Majka, CGMC. **PRINCE EDWARD ISLAND: Kings Co.:** Launching, 26.viii.2003, C.G. Majka, CGMC.

Recorded in Canada from Ontario and Quebec (McNamara 1991c); widely distributed in the United States (O'Brien and Wibmer 1982). Newly recorded in Nova Scotia, Prince Edward Island, and the Maritime Provinces as a whole. Feeds on *Poa pratensis* L. (Poaceae), *Phleum pratense*, and *Zea mays* (Vaurie 1951). In Nova Scotia found on coastal salt-spray barrens.

Curculionidae: Eirihininae

***Notaris puncticollis* (LeConte, 1876)**

NOVA SCOTIA: Cape Breton Co.: Sydney Tar Ponds, 23.v.2000, P.A. Rankin, CBU; Sydney Tar Ponds, 5.vii.2000, L.A. Hudson, CBU; **Kings Co.:** Port Williams, 17.iii.1962, D.H. Webster, DHWC. **PRINCE EDWARD ISLAND: Queens Co.:** Argyle Shore, 22.vii.1992, D.F. McAlpine, NBM.

Recorded throughout Canada from British Columbia and the Northwest Territories to Newfoundland (McNamara 1991c); found across the northern United States (O'Brien and Wibmer 1982). Newly recorded in Prince Edward Island. Associated with *Typha* spp. (Typhaceae) (Anderson 2002a).

***Onychylis nigrirostris* (Boheman, 1843)**

NOVA SCOTIA: Halifax Co.: Lake Egmont, 15.viii.1990, B. Wright, (2), NSMC; **Yarmouth Co.:** Tuskett River: Cavanaugh's Run, 27.vi.1995, J. and F. Cook, JCC.

Recorded in Canada from Ontario and Quebec (McNamara 1991c); found in the eastern and central United States (O'Brien and Wibmer 1982). Newly recorded in Nova Scotia and in the Maritime Provinces as a whole. Species of *Onychylis* are associated with *Pontederia cordata* L. (Pontederiaceae) and *Nuphar luteum* (L.) J.E. Smith (Nymphaeaceae) (Anderson 1993).

***Tanysphyrus lemnae* (Fabricius, 1792)**

NOVA SCOTIA: Cumberland Co.: Amherst Marsh, 24.vi.1994, J. Ogden, (4), NSNR; **Pictou Co.:** Pictou Island, 14.vii.1998, J. Ogden, (2), NSNR.

Recorded in Canada from British Columbia to Quebec (McNamara 1991c); widely distributed in the United States except for the southwest (O'Brien and Wibmer 1982). Newly recorded in Nova Scotia and in the Maritime Provinces as a whole. Associated with *Lemna* spp. (Lemnaceae) (Anderson 2002b).

Curculionidae: Curculioninae***Curculio nasicus* (Say, 1831)**

NOVA SCOTIA: Lunenburg Co.: Bridgewater, 7.vi.1995, J. Ogden, NSNR; Bridgewater, 13.viii.2001, G.D. Selig, GSC; Big Mushamush Lake, 28.vi.1981, B. Wright, NSM.

Although this species was reported from Prince Edward Island by McNamara (1991c), no specimens were located in any collection examined. *Quercus rubra* L., the only oak and possible host found on PEI, is now a rather infrequently encountered tree. A possible source of confusion are specimens in the CNC (which were available to McNamara) collected in Prince Edward County, Ontario. Accordingly this species is removed from the faunal list of Prince Edward Island.

***Acalyptus carpini* (Herbst, 1795)**

NOVA SCOTIA: Colchester Co.: Debert, 9.vi.1994, J. Ogden, NSNR.

Recorded from Alaska and in Canada from British Columbia to Quebec (McNamara 1991c); in the contiguous United States, recorded in border states south to Illinois and the District of Columbia (O'Brien and Wibmer 1982). McCorquodale *et al.* (2005) recorded it from Cape Breton Island and Majka *et al.* (2007b) reported it from New Brunswick. Newly reported from the Nova Scotia mainland. Associated with *Salix* spp. (Anderson 1997).

***Anthonomopsis mixta* (LeConte, 1876)**

NOVA SCOTIA: Kings Co.: Kingston, 30.vi.2002, C.G. Majka, CGMC.

Recorded in Canada from Ontario and Quebec (McNamara 1991c) and in the eastern and central United States (O'Brien and Wibmer 1982). Newly recorded in Nova Scotia and in the Maritime Provinces as a whole. Associated

with *Prunus* spp. (Rosaceae) (Ahmad and Burke 1972).

***Anthonomus corvulus* LeConte, 1876**

NOVA SCOTIA: 32 specimens examined; the earliest record is from 1967 (**Halifax Co.:** Armdale, 26.vi.1967 and 30.vi.1967, K. Neal, (3), NSMC). **PRINCE EDWARD ISLAND: Kings Co.:** Bangor, 23.vi.1970, R. Wenn, (16), UPEI; **Queens Co.:** St. Patricks, 13.vii.2002, C.G. Majka, CGMC.

Recorded across Canada from British Columbia to Newfoundland (McNamara 1991c); broadly distributed throughout the United States (O'Brien and Wibmer 1982). Newly recorded in Prince Edward Island. Associated with species of *Vaccinium* (Ericaceae), *Cornus* (Cornaceae), *Viburnum* (Caprifoliaceae), and *Prunus* (Blatchley and Leng 1916).

***Anthonomus elongatus* LeConte, 1876**

NOVA SCOTIA: Halifax Co.: Long Lake, 25.v.2002, C.G. Majka, (5), CGMC. **PRINCE EDWARD ISLAND: Kings Co.:** Millburn, 8.vi.1970, R. Wenn, UPEI; Woodville Mills, 30.vi.2003, C.G. Majka, (2), CGMC.

Recorded in Canada from Ontario and Quebec (McNamara 1991c); found in the eastern and central United States (O'Brien and Wibmer 1982). Newly recorded in Nova Scotia and Prince Edward Island. Bionomic associations are unknown (Clark and Burke 2005). Adults have been found on *Prunus serotina* Ehrh. (Tuttle 1956).

***Anthonomus haematopus* Boheman, 1843**

NOVA SCOTIA: Kings Co.: Wolfville, 23.vi.1950, H.T. Stultz, ACNS. **PRINCE EDWARD ISLAND: Queens Co.:** St. Patricks, 14.vii.2002, C.G. Majka, CGMC.

Recorded across Canada from British Columbia to Nova Scotia (McNamara 1991c); broadly distributed throughout the United States (O'Brien and Wibmer 1982). Newly recorded in Prince Edward Island. Associated with galls generated by sawflies of the genera *Pontania* and *Euura* on *Salix* spp. (Ahmad and Burke 1972).

***Anthonomus lecontei* Burke, 1975**

NOVA SCOTIA: Colchester Co.: Kempstown, 4.viii.1999, J. Ogden, NSNR; Debert, 13.vii.1994, J. Ogden, NSNR; **Cumberland Co.:** Amherst, 7.vii.1987, J. Ogden, NSNR; Wallace, 2.v.1989, B. Wright, (2), NSMC;

Halifax Co.: Herring Cove, 11.viii.2002, C.G. Majka, coastal barren, (2), CGMC.

Recorded across Canada from British Columbia to Quebec (McNamara 1991c); broadly distributed throughout the northern United States (O'Brien and Wibmer 1982). Newly recorded in Nova Scotia. Associated with *Aster divaricatus* L. (Asteraceae) (Ahmad and Burke 1972).

***Anthonomus molochinus* Dietz, 1891**

PRINCE EDWARD ISLAND: Kings Co.: Woodville Mills, 16.viii.2002, C.G. Majka, CGMC.

Recorded across Canada from British Columbia to Nova Scotia (McNamara 1991c); in the United States found primarily in the north (O'Brien and Wibmer 1982). Newly recorded in Prince Edward Island. Associated with *Aster* spp. (Blatchley and Leng 1916).

***Anthonomus musculus* Say, 1831**

NOVA SCOTIA: 21 specimens examined; the earliest record is from 1974 (**Halifax Co.:** Green Head Rd., 10.v.1974, J. Ripley, NSMC).

Recorded in Canada from Ontario and Quebec (McNamara 1991c); generally distributed in the eastern and central United States (O'Brien and Wibmer 1982). Newly recorded in Nova Scotia and in the Maritime Provinces as a whole. Associated with species of *Aronia* (Rosaceae) and *Vaccinium* (Blatchley and Leng 1916). In Nova Scotia frequently found on *V. angustifolium* Ait. and *Kalmia angustifolia* L. (Ericaceae).

***Anthonomus pictus* Blatchley, 1922**

NOVA SCOTIA: Yarmouth Co.: Tuskett River: Cavanaugh's Run, 27.vi.1995, J. and F. Cook, JCC.

Recorded in Canada solely from Quebec (McNamara 1991c); in the United States known only from Connecticut and New Jersey (O'Brien and Wibmer 1982). Newly recorded in Nova Scotia and in the Maritime Provinces as a whole. Recorded in a gall on *Solidago* spp. (Asteraceae), it may be an inquiline in the galls of Diptera (Clark and Burke 2005).

***Anthonomus quadrigibbus* (Say, 1831)**

NOVA SCOTIA: 41 specimens examined; the earliest record is from 2000 (**Halifax Co.:** Point Pleasant Park, 1.x.2000, C.G. Majka, CGMC).

Recorded in Canada from British Columbia to Quebec (McNamara 1991c); generally distributed

in the United States (O'Brien and Wibmer 1982). Newly recorded in Nova Scotia. Associated with *Crataegus*, *Malus*, *Prunus*, *Pyrus*, and *Ame-lanchier* spp. (Rosaceae) (Burke and Anderson 1989). In Nova Scotia found on species of *Ame-lanchier*, *Prunus*, *Pyrus*, and occasionally *Sorbus* (Rosaceae).

***Anthonomus subfasciatus* LeConte, 1876**

NOVA SCOTIA: Halifax Co.: Herring Cove, 11.viii.2002, C.G. Majka, CGMC; **Queens Co.:** Caledonia, 25.vii.1992, J. and F. Cook, JCC.

Recorded in Canada from Ontario and Quebec (McNamara 1991c); generally distributed in the eastern United States (O'Brien and Wibmer 1982). Newly recorded in Nova Scotia and in the Maritime Provinces as a whole. Collected from *Viburnum dentatum* L. (Ahmad and Burke 1972).

***Pseudanthonomus validus* Dietz, 1891**

NOVA SCOTIA: 54 specimens examined; the earliest records are from 1940 (**Yarmouth Co.:** Tuskett, 20.vii.1940 and 12.ix.1940, F.T. Lord, ACNS). **PRINCE EDWARD ISLAND: Prince Co.:** St. Felix, 2.vi.1996, M.E.M. Smith, ACPE; **Queens Co.:** Park Corner, 18.vii.1997, D.B. McCorquodale, CBU.

Recorded in Canada from the Yukon and British Columbia to Nova Scotia (McNamara 1991c); scattered records in the United States (O'Brien and Wibmer 1982). Newly recorded in Prince Edward Island. Associated with species of *Alnus* (Betulaceae), *Betula*, *Vaccinium*, *Ame-lanchier*, *Prunus*, and *Ribes* (Grossulariaceae) (Clark 1987). On PEI found on *Vaccinium angustifolium*; in Nova Scotia frequently found on *Betula papyrifera* Marsh., *V. angustifolium*, *V. myrtilloides* Michx., and *Kalmia angustifolia*.

***Dorytomus brevicollis* LeConte, 1876**

NOVA SCOTIA: Halifax Co.: Grand Desert, 20.v.1994, J. Purcell, JPC; Halifax Watershed area, 3.v.1954 and 14.v.1958, D.C. Ferguson, (3), NSMC; **Kings Co.:** Kentville, 2.vii.1968, D.H. Webster, DHWC; Waterville, 28.v.1945, H.T. Stultz, ACNS.

Recorded in Canada from Ontario and Quebec (McNamara 1991c); generally distributed in the eastern and central United States south to Mexico (O'Brien and Wibmer 1982). Newly recorded in Nova Scotia and in the Maritime Provinces as a whole. Associated with *Salix nigra* Marsh. (O'Brien 1970).

***Dorytomus laticollis* LeConte, 1876**

NOVA SCOTIA: Annapolis Co.: Channel Lake, 25.vi.–5.vii.2004, H. Love, DAL; **Antigonish Co.:** Crystal Cliffs, 4.vi.1969, B. Wright, (4), NSMC; **Kings Co.:** Kentville, 4.xi.2000, D.H. Webster, DHWC.

Recorded in Alaska and in Canada from British Columbia to Quebec (McNamara 1991c); generally distributed in the contiguous United States except in the southwest (O'Brien and Wibmer 1982). Newly recorded in Nova Scotia and in the Maritime Provinces as a whole. Associated with *Populus tremuloides* (O'Brien 1970).

***Dorytomus parvicollis* Casey, 1892**

NOVA SCOTIA: Colchester Co.: Debert, 10.v.1994, J. Ogden, NSNR; **Kings Co.:** North Alton, 23.xi.2002, D.H. Webster, DHWC.

Recorded in Canada from British Columbia to Newfoundland (McNamara 1991c); generally distributed in the United States except in the southeast (O'Brien and Wibmer 1982). Newly recorded in Nova Scotia. Associated with *Populus tremuloides* (O'Brien 1970).

***Gymnetron antirrhini* (Paykull, 1800)**

NOVA SCOTIA: 27 specimens examined; the earliest records are from 1930 (**Hants Co.:** Windsor, 18.vii.1930, F.C. Gilliat, ACNS; **Kings Co.:** Wolfville, 18.viii.1930, H.T. Stultz, ACNS). **PRINCE EDWARD ISLAND: Prince Co.:** Kildare, 18.vii.1960, L.S. Thompson, (2), ACPE; **Queens Co.:** Wood Islands, 23.vii.2001, C.G. Majka, CGMC.

This introduced Palearctic species is recorded in Canada from British Columbia to Newfoundland (McNamara 1991c); there are scattered records throughout the United States (O'Brien and Wibmer 1982). Newly recorded in Prince Edward Island. First reported in North America in Massachusetts in 1909 (Anderson 1973). Associated with *Linaria vulgaris* P. Mill. (Scrophulariaceae) (Anderson 1973).

***Gymnetron pascuorum* (Gyllenhal, 1813)**

NOVA SCOTIA: 52 specimens examined; the earliest record is from 1994 (**Cumberland Co.:** Amherst, 30.vii.1994, J. Ogden, NSNR). **PRINCE EDWARD ISLAND: Kings Co.:** Woodville Mills, 30.vi.2003, C.G. Majka, CGMC; **Queens Co.:** New Glasgow, 13.vii.2002, C.G. Majka, CGMC.

This introduced Palearctic species is recorded in Canada from British Columbia, Ontario, and Quebec (McNamara 1991c); there are scattered

records throughout the United States (O'Brien and Wibmer 1982). McCorquodale *et al.* (2005) recorded this species from Cape Breton Island; it is newly recorded from the Nova Scotia mainland and from Prince Edward Island. The earliest known records in North America are from Maryland in 1956 (Anderson 1973). Associated with *Plantago lanceolata* L. (Plantaginaceae) (Anderson 1973).

***Gymnetron tetrum* (Fabricius, 1792)**

NOVA SCOTIA: 56 specimens examined; the earliest record is from 1907 (**Annapolis Co.:** 10.vii.1907, (3), NSAC). **PRINCE EDWARD ISLAND: Queens Co.:** Millvale: Trout River, 25.vi.2003, C.G. Majka, (10), CGMC.

This introduced Palearctic species is recorded in Canada from British Columbia, Ontario, and Quebec (McNamara 1991c); it is broadly distributed throughout the United States (O'Brien and Wibmer 1982). McCorquodale *et al.* (2005) recorded this species from Cape Breton Island; it is newly reported from the Nova Scotia mainland. Known in North America at least as early as 1916 (Blatchley and Leng 1916). Associated with *Verbascum thapsus* L. (Scrophulariaceae) (Anderson 1973).

***Isochnus populicola* (Silfverberg, 1977)**

NOVA SCOTIA: 229 specimens examined; the earliest record is from 1977 (**Halifax Co.:** Halifax, 10.vi.1977, T.J. Willdey, (16), NSAC). **PRINCE EDWARD ISLAND: Kings Co.:** Woodville Mills, 30.vi.2003, C.G. Majka, (2), CGMC; **Queens Co.:** Cavendish, 19.vii.2001, C.G. Majka, CGMC; Charlottetown, viii.1998, J.G. Stewart, (4), ACPE; Harrington, summer 1998, M.E.M. Smith, (3), ACPE; Hunter River, 12.vii.2001, C.G. Majka, CGMC; St. Patricks, 19.vii.2001, 14.vii.2002, 15.vii.2002, and 30.vi.2003, C.G. Majka, (11), CGMC; Stanley Bridge, 18.vii.2002, D.B. McCorquodale, CBU.

This introduced Palearctic species is recorded in Canada from Ontario to Nova Scotia (McNamara 1991c); there are scattered records in the northeastern United States (O'Brien and Wibmer 1982). Newly recorded in Prince Edward Island. First recorded in North America in 1922 in New Jersey (Anderson 1989). Associated with species of *Salix* and *Populus* (Anderson 2002b).

***Orchestes pallicornis* (Say, 1831)**

NOVA SCOTIA: 108 specimens examined; the earliest record is from 1945 (**Halifax Co.:** French Village, 9.viii.1945, D.C. Ferguson, (2),

NSMC). **PRINCE EDWARD ISLAND:** 24 specimens examined from Kings, Prince, and Queens counties (Table 1). The earliest record is from 1974 (**Queens Co.:** Charlottetown, vi.1974, L.S. Thompson, ACPE).

Recorded in Canada from British Columbia to Newfoundland (McNamara 1991c); generally distributed in the United States (O'Brien and Wibmer 1982). Newly recorded in Prince Edward Island. Associated with species of *Ame-lanchier*, *Crataegus*, *Pyrus*, and *Prunus* (Anderson 1989).

***Tachyerges ephippiatus* (Say, 1831)**

NOVA SCOTIA: Halifax Co.: Point Pleasant Park, 6.vi.2001, C.G. Majka, CGMC; Halifax, 6.vi.2001, C.G. Majka, CGMC; **Hants Co.:** Brooklyn, 18.vi.1968, B. Wright, (2), NSMC; **Pictou Co.:** Lyons Brook, 25.vi.1995 and 28.vi.1995, E. Georgeson, NSNR.

Recorded in Canada from British Columbia to New Brunswick (McNamara 1991c); generally distributed in the United States (O'Brien and Wibmer 1982). McCorquodale *et al.* (2005) recorded this species from Cape Breton Island; it is newly reported from the Nova Scotia mainland. Associated with species of *Salix* and *Populus* (Anderson 1989).

***Tachyerges niger* (Horn, 1873)**

This species was recorded from Nova Scotia by O'Brien and Wibmer (1982) and McNamara (1991c). We have not, however, been able to find specimens from Nova Scotia in any collection examined. Since this species is known to occur in New Brunswick (Majka *et al.* 2007b), its presence in Nova Scotia is not implausible. However, in the absence of definite records, it is removed from the faunal list of Nova Scotia.

***Tychius meliloti* Stephens, 1831**

NOVA SCOTIA: Cumberland Co.: Oxford, 16.vi.1988, E. Georgeson, NSNR; **Halifax Co.:** Point Pleasant Park, 15.viii.2000 and 29.vii.2001, C.G. Majka, CGMC; **Pictou Co.:** Caribou, 2.ix.2001, C.G. Majka, CGMC. **PRINCE EDWARD ISLAND: Prince Co.:** Indian River, 17.vii.1997, D.B. McCorquodale, CBU; **Queens Co.:** St. Patricks, 18.viii.2002, C.G. Majka, CGMC; Wood Islands, 6.vi.1995 and 20.vii.1997, D.B. McCorquodale, CBU.

This introduced Palearctic species was first found in North America in Quebec in 1975 and there are records west to Saskatchewan (Anderson and Howden 1994). It is newly recorded in

Prince Edward Island. McCorquodale *et al.* (2005) recorded this species from Cape Breton Island; it is newly reported from the Nova Scotia mainland. Associated with *Melilotus* spp. (Anderson and Howden 1994).

***Tychius stephensi* Schönherr, 1836**

NOVA SCOTIA: 250 specimens examined; the earliest record is from 1942 (**Annapolis Co.:** Annapolis Royal, 9.vi.1942, G.A. Hines, ACNS). **PRINCE EDWARD ISLAND:** 35 specimens examined; the earliest record is from 1960 (**Prince Co.:** Kildare, 18.vii.1960, F.M. Cannon, ACPE).

This introduced Palearctic species was first found in North America in Connecticut in 1913 (Clark 1971). Recorded in Canada from British Columbia to Nova Scotia (McNamara 1991c); generally distributed in the United States (O'Brien and Wibmer 1982). Newly recorded in Prince Edward Island. Associated with *Trifolium pratense* L. (Fabaceae) (Anderson and Howden 1994).

Curculionidae: Bagoinae

***Bagous americanus* LeConte, 1876**

NOVA SCOTIA: Halifax Co.: Lake Egmont, 16.ix.1992, B. Wright, NSMC.

Recorded in Canada from Ontario and Quebec (McNamara 1991c); generally distributed in the eastern United States (O'Brien and Wibmer 1982). Newly recorded in Nova Scotia. Associated with *Nymphaea odorata* Ait. (Nymphaeaceae) (O'Brien and Marshall 1979).

***Bagous restrictus* LeConte, 1876**

NOVA SCOTIA: Cape Breton Co.: Boulardie: North Side, 3.vii.2004, C.W. D'Orsay, CBU.

Recorded in Canada from Ontario to New Brunswick (McNamara 1991c); generally distributed throughout the United States (O'Brien and Wibmer 1982). Newly recorded in Nova Scotia and in the Maritime Provinces as a whole. Associated with *Potamogeton* spp. (Potamogetonaceae) (C.W. O'Brien, personal communication).

Curculionidae: Baridinae

***Madarellus undulatus* (Say, 1824)**

NOVA SCOTIA: Colchester Co.: Truro, 5.vii.2004, J. Ogden, NSNR; **Halifax Co.:**

south-end Halifax, 25.viii.2001, 7.x.2001, 23.v.2002, and 21.vi.2002, C.G. Majka, (9), CGMC; **Kings Co.:** Kentville, 2.v.1996, 22.v.1996, 25.v.2000, and 6.vi.2001, D.H. Webster, DHWC.

Recorded in Canada from Ontario and Quebec (McNamara 1991*c*); generally distributed in the eastern and central United States (O'Brien and Wibmer 1982). Newly recorded in Nova Scotia and in the Maritime Provinces as a whole. Associated with *Toxicodendron* spp. (Anacardiaceae), *Vitis* spp. (Vitaceae), and *Parthenocissus quinquefolia* (L.) Planch. (Vitaceae) (Bouchard *et al.* 2005).

***Orchidophilus aterrimus* (Waterhouse, 1874)**

NOVA SCOTIA: Halifax Co.: Halifax, 26.ix.1984, A. Wilson, (2), NSMC.

This adventive species is recorded for the first time in Canada. In North America, intercepted on orchids in New York (Downie and Arnett 1996). Native to Singapore, Philippines, Thailand, Indonesia, and Japan, it is associated with *Dendrobium*, *Vanda*, *Phalaenopsis*, *Renanthera*, *Angraecum*, *Saccolabium*, *Cymbidium*, and *Spathoglottis* spp. (Orchidaceae) (Swezey 1945; Mau 1984). In Nova Scotia, found on a slipper orchid (*Paphiopedilum* sp.). There is no evidence to suggest that the species can survive in the wild in Canada.

***Cylindridia prolixa* (LeConte, 1876)**

NOVA SCOTIA: Cumberland Co.: Amherst, 26.vi.1994, J. Ogden, NSNR.

Recorded in Canada from Manitoba to Quebec (McNamara 1991*c*); generally distributed in the northern United States from Colorado to Massachusetts (O'Brien and Wibmer 1982). Newly recorded in Nova Scotia and in the Maritime Provinces as a whole. Associated with sedges (Cyperaceae) (Anderson 2002*b*).

***Dirabius rectirostris* (LeConte, 1876)**

NOVA SCOTIA: Cumberland Co.: Brookdale, 2.vii.1994, J. Ogden, NSNR; **Halifax Co.:** Long Lake, 6.vii.2002, C.G. Majka, CGMC; **Pictou Co.:** Pictou Island, 14.vii.1998, J. Ogden, NSNR. **PRINCE EDWARD ISLAND: Kings Co.:** Woodville Mills, 30.vi.2003 and 26.vii.2005, C.G. Majka, (3), CGMC; **Queens Co.:** St. Patricks, 14.vii.2002, C.G. Majka, CGMC.

Recorded in Canada from Ontario and Quebec (McNamara 1991*c*); generally distributed in the northeastern and north-central United States

(O'Brien and Wibmer 1982). Newly recorded in Nova Scotia and Prince Edward Island. Associated with *Scirpus cyperinus* (L.) Kunth; larvae are found in the stems (Blatchley and Leng 1916).

***Stethobaris ovata* (LeConte, 1868)**

NOVA SCOTIA: Colchester Co.: Debert, 23.vi.1995, E. Georgeson, NSNR; Shubenacadie, 8.vii.1998, J. Ogden, NSNR.

Recorded in Canada from Manitoba to Quebec (McNamara 1991*c*); generally distributed in the northern United States from Colorado to Massachusetts (O'Brien and Wibmer 1982). McCorquodale *et al.* (2005) recorded this species from Cape Breton Island; it is newly reported from the Nova Scotia mainland. *Stethobaris* spp. are associated with Orchidaceae including *Corallorhiza striata* Lindley, *C. trifida* Chat., *Cypripedium* spp., *Epipactis helleborine* (L.) Crantz, and *Habenaria* spp. (Howden 1995).

Curculionidae: Ceutorhynchinae

***Ceutorhynchus erysimi* (Fabricius, 1787)**

NOVA SCOTIA: Cape Breton Co.: Sydney, 17.vi.1965, W.J. Brown, (2), CNC (Brown 1967); **Colchester Co.:** Bible Hill, 14.v.2005, 31.v.2005, 14.vi.2005, 23.vi.2005, 14.vii.2005, 23.vii.2005, and 28.vii.2005, S.M. Townsend, (17), CBU; Debert, 6.v.1993, J. Ogden, NSNR; **Hants Co.:** Noel Shore, 2.vii.2002, A.J. Hebda, NSMC. **PRINCE EDWARD ISLAND: Queens Co.:** Harrington, vii.1998, J.G. Stewart, (3), ACPE.

This adventive Palearctic species is reported in Canada from British Columbia east to Nova Scotia (McNamara 1991*c*); it is widely distributed throughout North America (O'Brien and Wibmer 1982). Newly recorded in Prince Edward Island. First recorded in North America in Ohio in 1922 (Sleeper 1953). Associated with the introduced mustard *Capsella bursa-pastoris* (L.) Medik. (Brassicaceae) (Aksoy *et al.* 1998).

***Ceutorhynchus oregonensis* Dietz, 1896**

NOVA SCOTIA: Cape Breton Co.: North Sydney: Munroe Park, 11.vi.1996, D.B. McCorquodale, CBU; **Colchester Co.:** Bible Hill, 30.vi.2005, S.M. Townsend, CMNC.

Recorded in Canada from the Yukon south through British Columbia and east to Manitoba and in the United States in Oregon and Idaho (O'Brien and Wibmer 1982; McNamara

1991a). Newly reported in Nova Scotia and in the Maritime Provinces as a whole. The specimen from Cape Breton County was previously reported as *Ceutorhynchus squamatus* LeConte by McCorquodale *et al.* (2005) (see excluded species accounts below). Associated with *Rorippa palustris* (L.) Bess. (Brassicaceae) (Anderson 1997).

***Ceutorhynchus pallidactylus* (Marshall, 1802)**

NOVA SCOTIA: Lunenburg Co.: Kingsburg, 16.viii.1994, J. Ogden, NSNR.

This introduced Palearctic species is recorded in North America (originally as *Ceutorhynchus quadridens* (Panzer)) from Massachusetts, Rhode Island, Connecticut, and New York (O'Brien and Wibmer 1982). Newly reported in Nova Scotia and in Canada as a whole. First recorded in North America in 1900 (Chittenden 1900). Associated with *Brassica* spp., *Sinapis arvensis* L., *Sinapsis alba* L., *Raphanus raphanistrum* L., and *Sisymbrium officinale* L. Scop. (Brassicaceae) (Hoffman 1954).

***Glocianus punctiger* (Sahlberg, 1835)**

NOVA SCOTIA: 24 specimens examined; the earliest record is from 1945 (**Victoria Co.:** Baddeck, 27.vi.1945, NSMC). **PRINCE EDWARD ISLAND: Prince Co.:** Dunk River, 7.vii.1970, R. Wenn, UPEI; **Queens Co.:** Charlottetown, 29.v.1981 and 16.vi.1981, V. Friesen, (8), UPEI; Meadowbank, 27.v.1981, L. Drake, (2), UPEI; Mount Stewart, 4.vii.1995, M.E.M. Smith, ACPE; St. Patricks, 19.vii.2001, C.G. Majka, CGMC.

This introduced Palearctic species is recorded in Canada from the Yukon to Newfoundland (McNamara 1991c); it is broadly distributed throughout the United States except for the southwest (O'Brien and Wibmer 1982). Newly recorded in Prince Edward Island. Associated with *Taraxacum officinale* G.H. Weber *ex* Wiggers (Asteraceae) (Anderson 2002b).

***Acanthoscelidius acephalus* (Say, 1824)**

NOVA SCOTIA: Cumberland Co.: Amherst, 19.ix.1988, J. Ogden, NSNR; **Halifax Co.:** Dartmouth, 12.vii.1996, J. Purcell, JPC; Old Sambro Rd., 15.viii.1994, J. Ogden, NSNR; **Kings Co.:** Centreville, 13.vii.2005, C. Sheffield, ACNS; Coldbrook, 9.vii.1961, D.H. Webster, (2), DHWC; Kentville, 19.vii.2002, D.H. Webster, (3), DHWC; Kentville, 13.viii.1953, J.R.R., NSAC; New Minas, 22.vi.1996, G.D. Selig, GSC; Upper

Canard, 13.vii.2005, C. Sheffield, (4), ACNS; Wolfville, 22.ix.1994, J. Ogden, (2), NSNR; **Richmond Co.:** Pt. Michaud, 22.viii.2003, D.B. McCorquodale, CBU.

Recorded in Canada from Quebec (McNamara 1991c) and New Brunswick (Majka *et al.* 2007b); broadly distributed throughout the United States except for the southwest (O'Brien and Wibmer 1982). Newly recorded in Nova Scotia. Associated with *Oenothera* spp. and possibly other Onagraceae (Anderson 1993).

***Auleutes epilobii* (Paykull, 1800)**

NOVA SCOTIA: Victoria Co.: Effie's Brook, Cape Breton Highlands National Park, 19.vi.1996, D.B. McCorquodale, CBU. **PRINCE EDWARD ISLAND:** 1974–1983, UPEI; **Queens Co.:** Hartsville, 29.vi.1970, R.A. Wenn, (2), UPEI; St. Patricks, 13.vii.2002, C.G. Majka, CGMC.

Recorded throughout Canada from the Yukon to Newfoundland (McNamara 1991c); broadly distributed throughout the United States (O'Brien and Wibmer 1982). Newly recorded in Prince Edward Island. Associated with Onagraceae (Anderson 1993).

***Auleutes nebulosus* (LeConte, 1876)**

NOVA SCOTIA: Queens Co.: Kejimikujik National Park, 23.vi.1995, J. Ogden, NSNR; **Richmond Co.:** Lake Uist, 3–7.vii.1989, B. Wright, NSMC. **PRINCE EDWARD ISLAND: Queens Co.:** Brackley, 8.vi.1984, L.S. Thompson, (2), ACPE; Charlottetown, vii.1994, L.S. Thompson, (3), ACPE; Harrington, 9.vi.1987, L.S. Thompson, ACPE; Millvale: Trout River, 14.viii.2004, C.G. Majka, (2), CGMC; Tea Hill, 5.vi.1954, F.M. Cannon (3), ACPE; St. Patricks, 29.vi.2003, C.G. Majka, (4), CGMC.

Recorded in Canada from Manitoba to Quebec (McNamara 1991c); generally distributed in the northern United States from Colorado to Massachusetts (O'Brien and Wibmer 1982). McCorquodale *et al.* (2005) recorded this species from Cape Breton Island; it is newly reported from the Nova Scotia mainland and from Prince Edward Island. Associated with Onagraceae (Anderson 1993).

***Perigaster liturata* (Dietz, 1896)**

NOVA SCOTIA: Cape Breton Co.: Sydney Tar Ponds, 22.vii.1996, L.A. Hudson, CBU (McCorquodale *et al.* 2005). **PRINCE**

EDWARD ISLAND: Kings Co.: Woodville Mills, 25.viii.2003, C.G. Majka, CGMC.

Recorded in Canada from Ontario, Quebec, Newfoundland (McNamara 1991*c*), and Nova Scotia (McCorquodale *et al.* 2005); recorded in the northeastern United States from Iowa east to New Hampshire and New Jersey and also from Washington and Oregon (O'Brien and Wibmer 1982). Newly recorded in Prince Edward Island. Associated with *Ludwigia palustris* (L.) Ell. (Onagraceae) (Anderson 1993).

***Parentis* sp., undescribed**

NOVA SCOTIA: Cape Breton Co.: Scatarie Island, 11.viii.2005, J. Ogden, NSNR; Scatarie Island: Northwest Cove Pond, 16.vii.2006, A.M. MacDonald, (2), CBU; Scatarie Island: East Harbour, 16.vii.2006, A.M. MacDonald, CBU; **Halifax Co.:** Ingramport, 14.vii.1947, W.J. Brown, several specimens, CNC; **Victoria Co.:** Middle Aspy River near Cape North, 15.vi.1983, Y. Bousquet, CNC.

An apparently undescribed species of the genus *Parentis* has been found from a number of localities in Newfoundland, Nova Scotia, New Brunswick, Quebec, and Ontario. It appears to be associated with *Potentilla palustris* (L.) Scop. (Rosaceae). This species will be described in a future publication. We follow Colonnelli (2004) in regarding *Parentis* Dietz, 1896 as distinct from *Phytobius* Schoenherr, 1833.

***Pelenomus fuliginosus* (Dietz, 1896)**

NOVA SCOTIA: Halifax Co.: Sable Island: Main Station, 26.vii.1976, B. Wright, (2), NSMC; Sable Island: Main Station, 13.vii.1977, B. Wright, (3), NSMC.

Recorded in Canada from British Columbia to New Brunswick (McNamara 1991*c*); generally distributed in the United States except for the southeast (O'Brien and Wibmer 1982). Newly recorded in Nova Scotia. This species was reported in Howden (1970) as *P. near sulcicollis* Fåhraeus; however, on subsequent examination it was found to be *P. fuliginosus*. Possibly associated with *Polygonum* spp. (Polygonaceae) (Bouchard *et al.* 2005).

***Rhinoncus castor* (Fabricius, 1792)**

NOVA SCOTIA: 28 specimens examined; the earliest record is from 1946 (**Kings Co.:** Berwick, 9.vii.1946, H.T. Stultz, ACNS). **PRINCE EDWARD ISLAND:** 18.vi.1962, L.S. Thompson, (2), ACPE; **Kings Co.:** Belle River, 10.vi.1993,

M.E.M. Smith, ACPE; **Prince Co.:** Kildare, 18.vi.1960, F.M. Cannon, ACPE; Tignish, 16.vi.1993 and 30.vii.1995, M.E.M. Smith, (3), ACPE.

This introduced Palearctic species is recorded in Canada in British Columbia and from Ontario to Newfoundland (McNamara 1991*c*); it is broadly distributed throughout the United States (O'Brien and Wibmer 1982). Newly recorded in Prince Edward Island. First recorded in North America in New Jersey in 1895 (Brown 1950). Recorded in association with *Rumex acetosella* L. (Polygonaceae), *Medicago sativa* L. (Fabaceae), and *Oenanthe* spp. (Apiaceae) (Hoebeke and Whitehead 1980).

***Rhinoncus pericarpus* (Linnaeus, 1758)**

NOVA SCOTIA: Halifax Co.: Grand Desert, 5.v.1994, J. Purcell, JPC; Long Lake, 25.v.2002, C.G. Majka, CGMC; south-end Halifax, 27.v.2001 and 21.vi.2002, C.G. Majka, (13), CGMC; West Dover, 7.ix.2003, C.G. Majka, CGMC; **Kings Co.:** Kentville, 27.v.1968 and 26.v.2000, D.H. Webster, DHWC. **PRINCE EDWARD ISLAND: Kings Co.:** Woodville Mills, 23.vii.2001 and 26.vii.2005, C.G. Majka, (2), CGMC; **Queens Co.:** St. Patricks, 13.vii.2001 and 14.vii.2002, C.G. Majka, CGMC; Princeton-Warburton Rd., 27.vi.2003, C.G. Majka, CGMC.

This introduced Palearctic species is recorded in Canada from British Columbia, Alberta, Ontario, Quebec, and Newfoundland (McNamara 1991*c*); in the United States it is recorded in the northeast and in Washington state (O'Brien and Wibmer 1982). Newly recorded in Nova Scotia and Prince Edward Island. Hoebeke and Whitehead (1980) reported the earliest record of this species in North America from Massachusetts in 1928. Associated with *Rumex* spp. (Hoebeke and Whitehead 1980). In Nova Scotia recorded in association with *R. crispus* L., *R. maritimus* L., and *R. acetosa* L.

***Rhinoncus pyrrhopus* Boheman, 1845**

NOVA SCOTIA: Colchester Co.: Debert, 20.vii.1995, E. Georgeson, NSNR; Masstown, 1.vi.1990, M. LeBlanc, (2), NSNR; **Cumberland Co.:** Amherst, 22.v.1994, J. Ogden, NSNR; **Halifax Co.:** Point Pleasant Park, 10.viii.2001 and 18.viii.2001, C.G. Majka, CGMC; **Queens Co.:** Kejimikujik National Park, 23.vi.1995, J. Ogden, NSNR; **Yarmouth Co.:** Ellenwood Provincial Park, 26.vi.1995, J. and F. Cook, JCC; Tuskett River:

Cavanaugh's Run, 27.vi.1995, J. and F. Cook, (4), JCC. **PRINCE EDWARD ISLAND: Kings Co.:** Brooklyn, 8.vi.1994, L.S. Thompson, ACPE; **Queens Co.:** Harrington, 8.vi.1987, J.G. Stewart, ACPE; Victoria, 13–20.vii.1994, M.E.M. Smith, (2), ACPE; Millvale, 15.viii.2004, C.G. Majka, CGMC.

Recorded in Canada from the Northwest Territories to Quebec and Prince Edward Island (McNamara 1991c) and New Brunswick (Majka *et al.* 2007b); generally distributed in the United States except for the southeast (O'Brien and Wibmer 1982). Newly recorded in Nova Scotia. Associated with *Polygonum* spp. (Hoebeke and Whitehead 1980).

***Acallodes saltoides* Dietz, 1896**

NOVA SCOTIA: Annapolis Co.: Kejimikujik Park; Mersey River, 2.x.1994, B. Wright, NSMC.

Recorded in Canada from Quebec (McNamara 1991c) and New Brunswick (Majka *et al.* 2007b); scattered records in the northeastern and north-central United States (O'Brien and Wibmer 1982). Newly recorded in Nova Scotia. One species of *Acallodes* has been recorded in association with *Lysimachia terrestris* L. B.S.P. (Primulaceae) (Blatchley and Leng 1916).

***Rutidosoma decipiens* (LeConte, 1875)**

PRINCE EDWARD ISLAND: Queens Co.: St. Patricks, 3.ix.2001, C.G. Majka, CGMC.

Recorded in Alaska and in Canada from the Yukon east to Quebec (McNamara 1991c); scattered records from throughout the contiguous United States (O'Brien and Wibmer 1982). Newly recorded in Prince Edward Island and in the Maritime Provinces as a whole. Associated with *Populus* spp. (Anderson 2002b). In Prince Edward Island found in a mixed stand of *Populus tremuloides* and *P. grandidentata* Michx.

Curculionidae: Conoderinae

***Lechriops oculata* (Say, 1824)**

NOVA SCOTIA: Halifax Co.: Big Indian Lake, 11.vi.2003 and 16.vii.2003, P. Dollin, NSMC. **PRINCE EDWARD ISLAND: Queens Co.:** St. Patricks, 14.vii.2002, C.G. Majka, CGMC.

Recorded in Canada from Manitoba to Quebec and in Nova Scotia (McNamara 1991c); generally distributed in the eastern and central

United States south to Mexico and Guatemala (O'Brien and Wibmer 1982). Newly recorded in Prince Edward Island. Associated with species of *Quercus*, *Fraxinus* (Oleaceae), *Viburnum*, and *Crataegus* (Rosaceae), *Fagus grandifolia* Ehrh. (Fagaceae), and other hardwoods (Sleeper 1963).

Curculionidae: Cossoninae

***Cossonus platalea* Say, 1831**

NOVA SCOTIA: Pictou Co.: Marshy Hope, 7.vii.1994, M. LeBlanc, NSNR.

Recorded in Canada from Ontario and Quebec (McNamara 1991c) and New Brunswick (Majka *et al.* 2007b); in the United States recorded from New York south to Virginia and west to Indiana and Michigan (O'Brien and Wibmer 1982). Newly recorded in Nova Scotia. Found under the bark of species of *Populus*, *Juglans* (Juglandaceae), and *Ulmus* (Ulmaceae) (O'Brien 1997).

***Stenoscelis brevis* (Boheman, 1845)**

NOVA SCOTIA: Kings Co.: North Alton, 30.v.2006, D.H. Webster, on *Populus tremuloides*, (2), DHWC; North Alton, 5.viii.2006, D.H. Webster, on *Fraxinus americana* L., DHWC.

Recorded in Canada from Ontario and Quebec (McNamara 1991c) and in the United States from New England south to Florida and west to Minnesota, Iowa, and Kansas (O'Brien and Wibmer 1982). Newly recorded in Nova Scotia and in the Maritime Provinces as a whole. Found under the bark of apple, ash, bayberry, chinquapin, dogwood, elderberry, elm, hawthorn, hickory, holly, hornbeam, magnolia, maple, oak, poplar, redbay, snowdrop, sweetgum, and tulip (Buchanan 1948).

***Carphonotus testaceus* Casey, 1892**

NOVA SCOTIA: Annapolis Co.: Durland Lake, 21.vi.2003, P. Dollin, NSMC; **Antigonish Co.:** Eigg Mt., 9.vi.1995, M. LeBlanc, NSNR; **Colchester Co.:** Valley, 28.vi.2002, K. George, NSNR; **Guysborough Co.:** Seloam Lake, 2–15.vi.1997, D.J. Bishop, NSMC; **Halifax Co.:** Big Indian Lake, 11.vi.2003, P. Dollin, (2), NSMC; **Hants Co.:** Panuke Lake, 2–15.vi.1997, D.J. Bishop, NSMC; **Kings Co.:** Kentville, 1.vi.2006, D.H. Webster, DHWC; **Queens Co.:** Eight Mile Lake, 16.v.2003 and 10.vi.2003, P. Dollin, (5), NSMC; Fifth Lake, 3.vi.2003, P. Dollin, NSMC; Tobetic Lake,

17.vi.2003, P. Dollin, NSMC. **PRINCE EDWARD ISLAND: Kings Co.:** Woodville Mills, 23.vii.2001 and 6.ix.2001, C.G. Majka, (9), CGMC; **Queens Co.:** St. Patricks, 19.vii.2001, 14.vii.2002, and 25.vi.2003, C.G. Majka, (16), CGMC.

Recorded in Alaska and in Canada from British Columbia, Alberta, Ontario, Quebec, and New Brunswick (McNamara 1991c); also recorded from scattered states along the United States – Canada border (O'Brien and Wibmer 1982). McCorquodale *et al.* (2005) recorded this species from Cape Breton Island; it is newly recorded from the Nova Scotia mainland and in Prince Edward Island. Larvae live under the bark of *Picea* spp. (Anderson 2002b).

***Rhyncolus brunneus* Mannerheim, 1843**

NOVA SCOTIA: 30 specimens examined; the earliest record is from 1962 (**Kings Co.:** Port Williams, 17.iii.1962, D.H. Webster, DHWC). **PRINCE EDWARD ISLAND: Queens Co.:** St. Patricks, 19.vii.2001, C.G. Majka, (2), CGMC.

Recorded in Alaska and in Canada from British Columbia to New Brunswick and Newfoundland (McNamara 1991c); found primarily in the western and central United States (O'Brien and Wibmer 1982). McCorquodale *et al.* (2005) recorded this species from Cape Breton Island; it is newly reported from the Nova Scotia mainland and in Prince Edward Island. Associated with dead wood of various trees (Anderson 2002b).

***Phloeophagus apionides* Horn, 1873**

NOVA SCOTIA: Pictou Co.: Marshy Hope, 7.vii.1994, M. LeBlanc, NSNR.

Recorded in Canada in Ontario and Quebec (McNamara 1991c); in the United States, recorded in the northeast (O'Brien and Wibmer 1982). Newly recorded in Nova Scotia and in the Maritime Provinces as a whole. Associated with species of *Prunus*, *Fraxinus*, and *Quercus* (*alba* group) (O'Brien 1997).

Curculionidae: Cyclominae

***Listronotus appendiculatus* (Boheman, 1842)**

NOVA SCOTIA: Colchester Co.: Debert, 12.vii.1995, J. Ogden, NSNR; **Halifax Co.:** Lake Egmont, 15.viii.1990 and 18.ix.1991, B. Wright, NSMC. **PRINCE EDWARD ISLAND:**

Prince Co.: Indian River, 4.ix.2001, C.G. Majka, (5), CGMC.

Recorded in Canada from British Columbia to Quebec (McNamara 1991c); broadly distributed in the United States south to Mexico and Guatemala (O'Brien and Wibmer 1982). Newly recorded in Nova Scotia and Prince Edward Island. Associated with species of *Sagittaria* (Alismataceae) and *Engelmanniana* (Alismataceae) (O'Brien 1981).

***Listronotus dietzi* O'Brien, 1979**

NOVA SCOTIA: Kings Co.: Cambridge, 24.viii.1961, H.T. Stultz, (2), CMNC and NSMC.

Found in the United States from New York south to Florida and Texas and west to Kansas and Nebraska (O'Brien and Wibmer 1982). Newly recorded in Nova Scotia and in Canada as a whole. Bred from *Senecio* sp. (Asteraceae) and *Anethum graveolens* L. (Apiaceae) (Stockton 1956).

***Listronotus delumbis* (Gyllenhal, 1834)**

NOVA SCOTIA: Cumberland Co.: Westchester-Londonderry, 20.vii.1992, S. and J. Peck, (4), JCC; **Guysborough Co.:** Trafalgar, 19.vii.1992, S. and J. Peck, (2), JCC; **Halifax Co.:** Burnside, 30.iv.2003, C. Cormier, SMU; **Kings Co.:** Sheffield Mills, 19.vi.2005, S. Westby, ACNS.

Recorded in Canada from British Columbia to Quebec (McNamara 1991c); broadly distributed in the United States (O'Brien and Wibmer 1982). Newly recorded in Nova Scotia. Associated with *Sagittaria latifolia* Willd. and *Peltandra virginica* (L.) Schott (Araceae) (O'Brien 1997).

***Listronotus maculicollis* (Kirby, 1837)**

NOVA SCOTIA: Halifax Co.: Sable Island: Main Station, 26.vii.1976, B. Wright, (4), NSMC; Sable Island: West Light, 13.vi.1977, B. Wright, (3), NSMC; Sable Island: West End, 24.vii.2004, Z. Lucas, NSMC; **Queens Co.:** Medway River, 13.vii.1993, J. and T. Cook, JCC.

Recorded in Canada from the Yukon, British Columbia, Alberta, and Quebec (McNamara 1991c); broadly distributed throughout the United States south to Mexico (O'Brien and Wibmer 1982). Newly recorded in Nova Scotia. This species was reported from Sable Island by Howden (1970) and Wright (1989) as

Hyperodes sp. Associated with *Poa annua* L. (Vittum and Tashiro 1987).

Listronotus oregonensis oregonensis
(LeConte, 1876)

NOVA SCOTIA: Colchester Co.: Debert, 29.vi.1995, E. Georgeson, NSNR; Glenholm, 1.vi.1999, B. Eisses, (7), NSAC; **Cumberland Co.:** Oxford, 16.vi.1988, E. Georgeson, NSMC; **Yarmouth Co.:** Wellington, 23–29.viii.1992, J. Cook, JCC. **PRINCE EDWARD ISLAND:** 1973–1984, UPEI.

Recorded in Canada from Manitoba to Quebec (McNamara 1991c); broadly distributed throughout the United States south to Mexico (O'Brien and Wibmer 1982). Newly recorded in Nova Scotia. Associated with many plants in the Apiaceae as well as *Plantago major* L., *Rumex patientia* L., and *R. acetosella* (Torres and Hoy 2002).

Listronotus sparsus (Say, 1831)

NOVA SCOTIA: Annapolis Co.: Melvern Square, 24.vi.1992, E. Georgeson, (2), NSNR; **Antigonish Co.:** Beaver Mt. Park, 27.v.1993, E. Georgeson, NSNR; **Colchester Co.:** Bible Hill, 31.v.2005, S.M. Townsend, (2), CBU; Masstown, 21.vi.1990, T.D. Smith, NSNR; **Halifax Co.:** Grand Desert, 3.v.1994, J. Purcell, JPC. **PRINCE EDWARD ISLAND:** 18.vi.1962, L.S. Thompson, (3), ACPE; **Kings Co.:** Upton, ii.1965, L.S. Thompson, ACPE.

Recorded in Canada from the Northwest Territories, Alberta, Manitoba, Ontario, and Quebec (McNamara 1991c); broadly distributed throughout the eastern and central United States (O'Brien and Wibmer 1982). Newly recorded in Nova Scotia and Prince Edward Island. Associated with species of *Aster* and *Senecio* (C.W. O'Brien, personal communication); reared from *Plantago major* in Quebec (CMNC).

Listronotus squamiger (Say, 1831)

NOVA SCOTIA: Colchester Co.: Debert, 25.vii.1995, J. Ogden, NSNR; **Kings Co.:** Kentville, 15.viii.1987, K. Neil, NSMC.

Recorded in Canada from British Columbia and Quebec (McNamara 1991c); broadly distributed throughout the United States (O'Brien and Wibmer 1982). Newly recorded in Nova Scotia. Associated with *Scirpus validus*, *Sagittaria latifolia*, and *Sagittaria variabilis* Engelm. (O'Brien 1997).

Curculionidae: Entiminae

Barynotus moerens (Fabricius, 1792)

NOVA SCOTIA: Annapolis Co.: Lequille, 6.vii.1946, D.C. Ferguson, NSMC; Tupperville, 22.v.1956, C.J.S. Fox, (2), ACNS.

Brown (1950) first reported this introduced Palearctic species in North America from collections he made in Yarmouth, Nova Scotia, in 1947, subsequently collecting it from Sydney (Brown 1967). The above specimen from Lequille establishes its presence on the continent from 1946. In Europe adults are associated with *Mercurialis perennis* L. (Euphorbiaceae), *Convallaria majalis* L. (Liliaceae), *Lamium* spp. (Lamiaceae), *Cirsium* spp. (Asteraceae), *Viola* spp. (Violaceae), *Primula* spp. (Primulaceae), *Digitalis* spp. (Scrophulariaceae), and others. Larvae are root-feeders (Burakowski *et al.* 1993).

Barynotus schoenherri Zetterstedt, 1838

NOVA SCOTIA: 8 specimens examined; the earliest record is from 1884 (**Cape Breton Co.:** Sydney, 1884, W.H. Harrington (Harrington 1891)). **PRINCE EDWARD ISLAND:** 29.iv.1981, L.S. Thompson, ACPE; **Queens Co.:** Cavendish, 14.vii.2002, C.G. Majka, (2), CGMC; Charlottetown, 29.v.1982, L.S. Thompson, ACPE; Charlottetown, 14.viii.1984, L.S. Thompson, ACPE; Hampton, 20.vii.1965, K. Morrison.

In Canada this introduced Palearctic species has been recorded from Quebec to Newfoundland (McNamara 1991c); in the United States it has been recorded from Maine to New York (O'Brien and Wibmer 1982). Newly recorded in Prince Edward Island. First recorded in North America in 1876 in Newfoundland (LeConte and Horn 1876) and in Nova Scotia in 1884 (Harrington 1891). Adults feed on foliage (Anderson 2002b).

Hormorus undulatus (Uhler, 1856)

NOVA SCOTIA: Halifax Co.: Armdale, 24.iv.1943, D.C. Ferguson, NSMC; Mill Lake, 16.iv.1994, J. Purcell, JPC; Eastern Passage, 8–16.vi.2003, T. Rossolimo, NSMC; Point Pleasant Park, 9.x.2004, C.G. Majka, CGMC; **Inverness Co.:** Bornish Hills, 19.vii.1995, G.R. MacPherson, CBU; **Yarmouth Co.:** Wellington, 15–24.vii.1993, J. and T. Cook, JCC. **PRINCE EDWARD ISLAND: Queens Co.:** St. Patricks, 13.vii.2002, C.G. Majka, CGMC; St. Patricks, 14.vii.2002, C.G. Majka,

CGMC; Millvale, 28.vi.2002, C.G. Majka, CGMC.

Recorded in Canada from Alberta to Nova Scotia (McNamara 1991c); in the United States found primarily in the northeast (O'Brien and Wibmer 1982). Newly recorded in Prince Edward Island. Collected from a paper birch (*Betula papyrifera*) log (Dearborn and Donahue 1993).

Otiorynchus ligneus (Olivier, 1807)

NOVA SCOTIA: 90 specimens examined; the earliest record is from 1927 (**Colchester Co.:** Economy, 1927 (Brown 1940)). **PRINCE EDWARD ISLAND:** 4.vi.1962, L.S. Thompson, (13), ACPE; **Kings Co.:** 13.vii.1981, L.S. Thompson, ACPE; **Prince Co.:** Summerside, 14.vi.1983, L.S. Thompson, (5), ACPE; **Queens Co.:** Brookfield, 4.vii.1989, M.E.M. Smith, (2), ACPE; North Rustico, 26.vi.2003, C.G. Majka, CGMC.

In Canada this introduced Palearctic species has been recorded in New Brunswick, Nova Scotia, and Newfoundland (McNamara 1991c); in the United States it has been recorded from Maine (O'Brien and Wibmer 1982). Newly recorded in Prince Edward Island. First recorded in North America in 1917 in New Brunswick (Brown 1940). In Europe associated with plants such as *Diplotaxis tenuifolia* (L.) DC. (Brassicaceae), *Reseda luteola* L. (Resedaceae), and *Scorzonera humilis* L. (Asteraceae) (Hoffman 1950).

Otiorynchus ovatus (Linnaeus, 1758)

NOVA SCOTIA: 216 specimens examined; the earliest record is from 1884 (**Cape Breton Co.:** Sydney, 1884, W.H. Harrington (Harrington 1891)). **PRINCE EDWARD ISLAND:** 47 specimens examined; the earliest record is from 1952 (**Queens Co.:** Charlottetown, 1952, F.M. Cannon, (3), ACPE).

This introduced Palearctic species has been recorded from Alaska and throughout Canada from Yukon and British Columbia to Newfoundland (McNamara 1991c); it is widely distributed throughout the contiguous United States (O'Brien and Wibmer 1982). Newly recorded in Prince Edward Island. First recorded in North America in 1839–1842 in Newfoundland (Lindroth 1957). Adults are polyphagous on plants in the families Begoniaceae, Boraginaceae, Ericaceae, Fabaceae, Polygonaceae, Rosaceae, and Vitaceae (Bouchard *et al.* 2005).

Otiorynchus raucus (Fabricius, 1777)

NOVA SCOTIA: **Kings Co.:** Sheffield Mills, 4.vii.2002, 11.vii.2002, 22.vii.2002, and 24.vii.2002, K. Neil, (4), NSMC.

In North America this introduced Palearctic species has previously been recorded only in Ontario (O'Brien and Wibmer 1982; McNamara 1991c). Newly recorded in Nova Scotia and in the Maritime Provinces as a whole. First recorded in North America in 1936 in Ontario (Warner and Negley 1976). Adults are polyphagous; larvae feed on fruit trees, vegetables, rhubarb (*Rheum* spp.), and a variety of ornamental plants (Hoffman 1950).

Otiorynchus singularis (Linnaeus, 1767)

NOVA SCOTIA: 281 specimens examined; the earliest record is from 1937 (**Yarmouth Co.:** East Kemptville, 1937, W.J. Brown, CNC). **PRINCE EDWARD ISLAND:** **Kings Co.:** Woodville Mills, 23.vii.2001, C.G. Majka, (2), CGMC.

This introduced Palearctic species has been recorded on the west coast of North America in British Columbia, Washington, Oregon, and Idaho; from Ontario east to Newfoundland; and in New England from Maine to Pennsylvania (O'Brien and Wibmer 1982; Anderson 1991; McNamara 1991c). Newly recorded in Prince Edward Island. First recorded in North America in 1872 in Massachusetts (Brown 1940). Adults are polyphagous, having been recorded on conifers and species of *Fagus*, *Corylus* (Betulaceae), and *Alnus* (Hoffman 1950).

Phyllobius oblongus (Linnaeus, 1758)

NOVA SCOTIA: 98 specimens examined; the earliest record is from 1970 (**Colchester Co.:** River Philip, 27.vi.1970, P. Doleman, (2), NSMC). **PRINCE EDWARD ISLAND:** 1974–1983, (7), UPEI; **Kings Co.:** Woodville Mills, 30.vi.2003, C.G. Majka, CGMC; **Queens Co.:** St. Patricks, 14.vii.2002 and 27.vi.2003, C.G. Majka, CGMC; Millvale, 25.vi.2003, C.G. Majka, (2), CGMC; North Rustico, 26.vi.2003, C.G. Majka, (2), CGMC.

In Canada this introduced Palearctic species has been recorded in British Columbia and from Ontario to Prince Edward Island (McNamara 1991c); in the United States it has been recorded from Connecticut, New York, Ohio, and Michigan (O'Brien and Wibmer 1982). McCorquodale *et al.* (2005) recorded this species from Cape Breton Island; it is newly reported from the Nova Scotia mainland.

It was first recorded in North America in 1923 in New York (Felt 1928). Adults are associated with foliage of *Acer*, *Betula*, *Populus*, and *Salix* spp., *Ostrya virginiana* (Mill.) Koch (Betulaceae), *Tilia americana* L. (Tiliaceae), and *Ulmus americana* L. and several fruit trees, berries, and shrubs. Larvae are rhizophagous (Pinski *et al.* 2005). In Nova Scotia, recorded on *Tilia × europea* L., *Acer rubrum* L. (Aceraceae), and *Populus grandidentata*.

***Polydrusus cervinus* (Linnaeus, 1758)**

NOVA SCOTIA: Kings Co.: Kentville, 16.vi.2004, D.H. Webster, DHWC; Kingston, 30.vi.2002, C.G. Majka, (6), CGMC; **Pictou Co.:** Caribou, 12.vii.2002, C.G. Majka, CGMC; Salt Springs, 16.vii.2002, CGMC; **Shelburne Co.:** Jordan Falls Bridge, 22.vi.2003, G.D. Selig, (3), NSMC. **PRINCE EDWARD ISLAND: Prince Co.:** Summerside, 20.vii.2001, C.G. Majka, CGMC; **Queens Co.:** Cavendish, 19.vii.2001 and 14.vii.2002, C.G. Majka, CGMC; Millvale: Trout River, 25.vi.2003, C.G. Majka, CGMC; North Rustico, 13.vii.2002, C.G. Majka, (4), CGMC; St. Patricks, 19.vii.2001, 13.vii.2002, and 14.vii.2002, C.G. Majka, (8), CGMC.

In Canada this introduced Palearctic species has been recorded in Quebec (McNamara 1991c); in the United States it has been recorded in New Hampshire and New Jersey (O'Brien and Wibmer 1982). Newly recorded in Nova Scotia, Prince Edward Island, and the Maritime Provinces as a whole. First recorded in the United States in New Hampshire (1963) and New Jersey (1969) (Warner 1971) and in Canada in Quebec in 1987 (Bright 1988). Adults feed on the leaves of *Betula*, *Salix*, *Populus*, *Quercus*, *Alnus*, *Corylus*, *Acer*, and *Prunus* spp.; larvae feed on the roots of orchard grass, *Dactylis glomerata* L. (Poaceae) (Dieckmann 1980).

***Polydrusus sericeus* (Schaller, 1783)**

NOVA SCOTIA: 27 specimens examined; the earliest record is from 1996 (**Victoria Co.:** Wreck Cove Beach, 29.vi.1996 and 30.vi.1996, D.B. McCorquodale, CBU). **PRINCE EDWARD ISLAND: Queens Co.:** Cavendish, 19.vii.2001 and 14.vii.2002, C.G. Majka, (6), CGMC; Millvale: Trout River, 25.vi.2003 and 15.viii.2004, C.G. Majka, CGMC; St. Patricks, 25.vi.2003 and 27.vi.2003, G.G. Majka, (3),

CGMC; Toronto, 19.viii.2002, C.G. Majka, CGMC.

This introduced Palearctic species has been recorded in Canada from Ontario to New Brunswick (McNamara 1991c) and in the northeastern United States (O'Brien and Wibmer 1982). McCorquodale *et al.* (2005) recorded this species from Cape Breton Island; it is newly reported from the Nova Scotia mainland and in Prince Edward Island. First reported in North America from Connecticut in 1934 (Britton 1934). Adults are associated with foliage of *Acer*, *Alnus*, *Corylus*, *Populus*, and *Salix* spp. and a variety of fruit trees and shrubs. Larvae are rhizophagous (Pinski *et al.* 2005). In Nova Scotia adults were frequently collected on *Betula papyrifera*, *Populus grandidentata*, and *Tilia × europea*.

***Sciaphilus asperatus* (Bonsdorff, 1785)**

NOVA SCOTIA: 183 specimens examined; the earliest record is from 1884 (**Cape Breton Co.:** Sydney, 1884, W.H. Harrington (Harrington 1891)). **PRINCE EDWARD ISLAND:** 22 specimens examined; the earliest record is from 1957 (**Queens Co.:** Pownal, 6.vi.1957, F.M. Cannon, ACPE).

In Canada this introduced Palearctic species has been recorded in British Columbia and from Ontario east to Newfoundland (McNamara 1991c); there are scattered records in the United States, primarily in the northeast (O'Brien and Wibmer 1982). Newly recorded in Prince Edward Island. First recorded in North America in Nova Scotia in 1884 (Harrington 1891). Adults are associated with foliage of *Acer* spp., *Betula* spp., and various fruit trees and shrubs. Larvae are rhizophagous (Pinski *et al.* 2005). In Nova Scotia this species is found on a variety of coniferous and deciduous trees, heaths, and herbaceous vegetation.

***Sitona cylindricollis* (Fåhraeus, 1840)**

NOVA SCOTIA: 34 specimens examined; the earliest record is from ~1939 (Brown 1940). **PRINCE EDWARD ISLAND: Prince Co.:** Bedeque, 19.ix.1966, L.S. Thompson, (2), ACPE; **Queens Co.:** Charlottetown, vi.1974, L.S. Thompson, ACPE; Pinette, 24.vi.2003, C.G. Majka, CGMC; Millvale, 25.vi.2003, C.G. Majka, CGMC; North Rustico, 26.vi.2003, C.G. Majka, (3), CGMC.

In Canada this introduced Palearctic species has been recorded from British Columbia to Nova Scotia (McNamara 1991c); it is widely

distributed throughout the United States (Bright 1994). Newly recorded in Prince Edward Island. First recorded in North America in Quebec in 1924 (Bright 1994). Primarily associated with *Melilotus* spp. but also found on *Medicago* spp. and *Trifolium hybridum* L. (Bright 1994).

***Sitona flavescens* (Marsham, 1802)**

NOVA SCOTIA: 39 specimens examined; the earliest record is from 1928 (**Annapolis Co.:** Annapolis Royal, 11.i.1928, J.P. Spittal, ACNS). **PRINCE EDWARD ISLAND:** 44 specimens examined from Kings, Prince, and Queens counties (Table 1). The earliest record is from 1962 (**Queens Co.:** Charlottetown, ix.1962, L.S. Thompson, (4), ACPE).

In Canada this introduced Palearctic species has been recorded from British Columbia to Newfoundland (McNamara 1991c); it is widely distributed throughout the United States south to Mexico (Bright 1994). Newly recorded in Prince Edward Island. First recorded in North America in 1839–1842 (Lindroth 1957). Associated with many species of clovers, alfalfa, and other Fabaceae (Bright 1994).

***Sitona hispidulus* (Fabricius, 1777)**

NOVA SCOTIA: 54 specimens examined; the earliest record is from 1926 (**Colchester Co.:** Truro, 12.x.1926, H.E. Payne, (2), NSAC). **PRINCE EDWARD ISLAND:** 54 specimens examined from Kings, Prince, and Queens counties (Table 1). The earliest record is from 1961 (**Kings Co.:** Newport, 6.vi.1961, L.S. Thompson, ACPE).

This introduced Palearctic species has been recorded from Alaska and British Columbia and from Ontario to Newfoundland (McNamara 1991c); it is widely distributed throughout the contiguous United States (Bright 1994). Newly recorded in Prince Edward Island. First recorded in North America from New Jersey in 1875 (Bright 1994). Associated with many species of clovers, alfalfa, and other Fabaceae (Bright 1994).

***Sitona lineellus* (Bonsdorff, 1785)**

NOVA SCOTIA: 334 specimens examined; the earliest record is from 1945 (**Victoria Co.:** Baddeck: Kidston Island, 20.vi.1945, (4), NSMC). **PRINCE EDWARD ISLAND:** 120 specimens examined from Kings, Prince, and Queens counties (Table 1). The earliest record

is from 1953 (**Queens Co.:** Pownal, 4.vii.1953, L.S. Thompson, (7), ACPE).

Recorded from Alaska to Newfoundland (McNamara 1991c); widely distributed throughout the contiguous United States except for the southeast (Bright 1994). Newly recorded in Prince Edward Island. Associated mainly with *Medicago sativa* and *Vicia cracca* L. but also with other Fabaceae (Bright 1994). The North American population of this Holarctic species was formerly known as *S. scissifrons* (Say).

***Trachyphloeus aristatus* (Gyllenhal, 1827)**

NOVA SCOTIA: Annapolis Co.: Granville Ferry, 30.vi.2003, C.G. Majka, CGMC; **Digby Co.:** Brier Island: Gull Rock Rd., 23.vi.2003, J. Ogden and K. Goodwin, JOC; Brier Island: Western Light, 28.vi.2003, J. Ogden and K. Goodwin, JOC. **PRINCE EDWARD ISLAND: Queens Co.:** Charlottetown, 4.vii.2005 and 12.vii.2005, M.E.M. Smith, many specimens, ACPE.

In North America this introduced Palearctic species has been found in Ontario (Brown 1965), Maine (Dearborn and Donahue 1993), and Wisconsin (Pinski *et al.* 2005). Newly recorded in Nova Scotia, Prince Edward Island, and the Maritime Provinces as a whole. First recorded in North America in 1964 (Brown 1965). Specific bionomics are unknown. In Wisconsin found in a poplar (*Populus* spp.) forest with an understory of *Fragaria* sp. (Rosaceae), grasses, and *Quercus* seedlings (R.A. Pinski, personal communication); in Maine found in an oak forest (Dearborn and Donahue 1993).

Curculionidae: Hyperinae

***Hypera castor* (LeConte, 1876)**

NOVA SCOTIA: Colchester Co.: Debert, 16.vi.1994, J. Ogden, NSNR. **PRINCE EDWARD ISLAND: Queens Co.:** Wood Islands, 30.vi.2003, C.G. Majka, CGMC.

Recorded from Saskatchewan, Manitoba, Quebec (McNamara 1991c), and New Brunswick (Majka *et al.* 2007b). Newly recorded in Nova Scotia and Prince Edward Island. No specific information on bionomics is available, but species of *Hypera* feed on the foliage of various Fabaceae and Polygonaceae (Anderson 2002b).

***Hypera meles* (Fabricius, 1792)**

NOVA SCOTIA: 20 specimens examined; the earliest record is from 1951 (**Halifax Co.:**

Sackville, 20.v.1951, D.C. Ferguson, NSMC). **PRINCE EDWARD ISLAND: Queens Co.:** Charlottetown, viii.1964, L.S. Thompson, (4), ACPE; Wood Islands, 30.vi.2003, C.G. Majka, CGMC.

In Canada this introduced Palearctic species has been recorded from Ontario to Nova Scotia (McNamara 1991c); there are scattered records in the eastern and central United States (O'Brien and Wibmer 1982). Newly recorded in Prince Edward Island. First recorded in North America from New York in 1907 (Brown 1940). Associated with species of *Trifolium*, *Medicago*, and *Lotus* (Fabaceae) (Hoffman 1954).

***Hypera postica* (Gyllenhal, 1813)**

NOVA SCOTIA: 18 specimens examined; the earliest record is from 1981 (**Kings Co.:** Porter Point, 31.vii.1981, H.B. Specht, (13), ACNS). **PRINCE EDWARD ISLAND: Kings Co.:** New Perth, 6.vi.1961, F.M. Cannon, ACPE; **Queens Co.:** Charlottetown, viii.1984, L.S. Thompson, (2), ACPE.

In Canada this introduced Palearctic species has been recorded from Alberta and from Ontario to Nova Scotia (McNamara 1991c); there are scattered records in the eastern and western United States (O'Brien and Wibmer 1982). Newly recorded in Prince Edward Island. First recorded in North America in Utah in 1902 (Titus 1911). Associated with *Medicago sativa* (Hoffman 1954).

***Hypera zoilus* (Scopoli, 1763)**

NOVA SCOTIA: 32 specimens examined; the earliest record is from 1924 (**Annapolis Co.:** Annapolis Royal, 21.ix.1924, J.P. Spittal, ACNS). **PRINCE EDWARD ISLAND: Prince Co.:** Port Hill, 29.viii.1991, M.E.M. Smith, ACPE; **Queens Co.:** Charlottetown, viii.1965, L.S. Thompson, (3), ACPE.

In Canada this introduced Palearctic species has been recorded from British Columbia and Ontario to Newfoundland (McNamara 1991c); it is widely distributed in the United States (O'Brien and Wibmer 1982). Newly recorded in Prince Edward Island. First recorded in North America from Quebec in 1853 (Brown 1940). Larvae feed on *Trifolium* spp. and *Medicago sativa*; adults are associated with various plants in the Fabaceae (Hoffman 1954). Formerly known as *H. punctata* (Fabricius). The synonymy, reported by Hoffman (1954), is widely

known in Europe but has only slowly been adopted in North America.

Curculionidae: Mesoptiliinae

***Magdalis armicollis* Say, 1824**

NOVA SCOTIA: Cumberland Co.: Amherst, 7.viii.1987, J. Ogden, NSNR.

Recorded in Canada from Saskatchewan, Ontario, and Quebec (McNamara 1991c); broadly distributed in the eastern and central United States (O'Brien and Wibmer 1982). Newly recorded in Nova Scotia. Associated with *Ulmus* spp.; larvae mine the bark of dead or dying trees (Blatchley and Leng 1916).

***Magdalis barbata* (Say, 1831)**

NOVA SCOTIA: Cumberland Co.: Amherst, 13.vi.1993, J. Ogden, NSNR; **Kings Co.:** Kentville, 23.vi.1996 and 14.iv.2001, D.H. Webster, DHWC.

Recorded in Canada from Manitoba to Quebec (McNamara 1991c); broadly distributed in the eastern and central United States (O'Brien and Wibmer 1982). Newly recorded in Nova Scotia and in the Maritime Provinces as a whole. Associated with species of *Quercus*, *Ulmus*, and *Carya* (Juglandaceae) (Blatchley and Leng 1916).

***Magdalis gentilis* LeConte, 1876**

NOVA SCOTIA: Colchester Co.: Debert, 30.v.1991, E. Georgeson, NSNR; Masstown, 15.vi.1990, T.D. Smith, NSNR; Truro, 15.vii.1917, NSAC; **Cumberland Co.:** Amherst, 25.vi.1994, J. Ogden, (2), NSNR; **Kings Co.:** Kingston, 30.vi.2002, C.G. Majka, CGMC.

Recorded in western North America from California north to British Columbia, east to Saskatchewan and south to Colorado, thence east through Minnesota, Michigan, and Quebec to Maine (O'Brien and Wibmer 1982; McNamara 1991c). Newly recorded in Nova Scotia. Associated with *Picea* spp. (Blatchley and Leng 1916); in Nova Scotia found on *Pinus strobus*.

***Magdalis perforata* Horn, 1873**

NOVA SCOTIA: Halifax Co.: Point Pleasant Park, 14.ix.2000 and 20.vii.2002, C.G. Majka, CGMC.

Recorded in Canada from Ontario and Quebec (McNamara 1991c); broadly distributed in the eastern United States (O'Brien and Wibmer

1982). Newly recorded in Nova Scotia and in the Maritime Provinces as a whole. Associated with *Pinus strobus* and other pines (Blatchley and Leng 1916); in Nova Scotia found in a mixed *Pinus strobus* and *Picea rubens* forest.

***Magdalis piceae* Buchanan, 1934**

NOVA SCOTIA: Halifax Co.: Point Pleasant Park, 30.vi.2001 and 2.vii.2001, C.G. Majka, CGMC.

Recorded in Canada from Ontario and Quebec (McNamara 1991c) and in the United States from Massachusetts and New Hampshire (O'Brien and Wibmer 1982). Newly recorded in Nova Scotia and in the Maritime Provinces as a whole. Associated with *Picea pungens* Engelm. (Buchanan 1934); in Nova Scotia recorded in association with *Picea rubens*.

***Magdalis salicis* Horn, 1873**

NOVA SCOTIA: Annapolis Co.: Annapolis Royal, 30.vi.2002, C.G. Majka, CGMC.

Recorded in Canada from Ontario and Quebec (McNamara 1991c) and in the United States from Indiana, Maine, Massachusetts, and New York (O'Brien and Wibmer 1982). Newly recorded in Nova Scotia and in the Maritime Provinces as a whole. Associated with *Juglans nigra* L. (Blatchley and Leng 1916). In Nova Scotia recorded in association with *Pinus strobus*.

Curculionidae: Molytinae

***Conotrachelus posticatus* Boheman, 1837**

NOVA SCOTIA: 75 specimens examined; the earliest record is from 1964 (**Lunenburg Co.:** Bridgewater, 1964, (2), NSMC).

Recorded in Canada from Ontario and Quebec (McNamara 1991c); broadly distributed in the eastern and central United States south to Mexico, Guatemala, and Panama (O'Brien and Wibmer 1982). Newly recorded in Nova Scotia. Associated with species of *Crataegus*, *Prunus*, *Carya*, and *Quercus* (Schoof 1942).

***Hylobius congener* Dalla Torre, Shchenkling, and Marshall, 1943**

NOVA SCOTIA: 172 specimens examined; the earliest record is from 1945 (**Halifax Co.:** Armdale, 5.vii.1945, D.C. Ferguson, NSMC). **PRINCE EDWARD ISLAND: Kings Co.:** Launching, 26.viii.2003, C.G. Majka, CGMC; **Prince Co.:** Conway Narrows, 24.vii.1970, U. Grigg, NSMC; Enmore, 26.v.1981, G. Hogan, UPEI; **Queens Co.:** Charlottetown,

12.vi.1978 and winter 1988, L.S. Thompson, ACPE; Kinlock, 16.vi.1962, B. Wonnacott, UPEI; St. Patricks, 25.vi.2003 and 27.vi.2003, C.G. Majka, (9), CGMC; Wood Islands, 30.vi.2003, C.G. Majka, CGMC.

Recorded in Alaska and in Canada from the Yukon and British Columbia to Newfoundland (McNamara 1991c); in the contiguous United States recorded primarily in the northeast as well as in Minnesota and North Carolina (O'Brien and Wibmer 1982). Newly recorded in Prince Edward Island. Associated with *Pinus resinosa* Ait., *P. strobus*, and *P. sylvestris* L. (Warner 1966).

***Piazorhinus pictus* LeConte, 1876**

NOVA SCOTIA: Queens Co.: Ponthook Lake, 13.vii.1993, J. Cook, JCC.

Recorded in Canada from Manitoba to Quebec (McNamara 1991c); scattered distribution in the eastern United States (O'Brien and Wibmer 1982). Newly recorded in Nova Scotia and in the Maritime Provinces as a whole. Associated with *Quercus* spp. (Anderson 1993).

***Pissodes fiskei* Hopkins, 1911**

NOVA SCOTIA: 154 specimens examined; the earliest record is from 1952 (**Halifax Co.:** Halifax, 26.v.1952, D.C. Ferguson, NSMC). **PRINCE EDWARD ISLAND:** 1974–1983, UPEI.

Recorded in Canada from the Yukon to New Brunswick (McNamara 1991c) and in the United States from Maine and New Hampshire (O'Brien and Wibmer 1982). McCorquodale *et al.* (2005) recorded this species from Cape Breton Island; it is newly recorded from the Nova Scotia mainland and on Prince Edward Island. Associated with *Picea rubens* and *P. mariana* (Mill.) B.S.P. (Stewart and Bright 1982).

***Pissodes nemorensis* Germar, 1824**

NOVA SCOTIA: 151 specimens examined; the earliest record is from 1963 (**Guysborough Co.:** 3 mi. north of Caledonia, 21.viii.1963, AFC). **PRINCE EDWARD ISLAND: Queens Co.:** Dalvay, vi.1967, (8), AFC; Dalvay, 1967, (6), AFC.

Recorded in Canada from Manitoba to Nova Scotia (McNamara 1991c); in the United States recorded primarily in the southeast (O'Brien and Wibmer 1982). Newly recorded in Prince Edward Island. Associated with various species of pine (*Pinus* spp.) (Williams and Langor

2002). In the Maritime Provinces found on *Pinus banksiana*, *P. strobus*, and *P. sylvestris*.

***Pissodes striatulus* (Fabricius, 1775)**

NOVA SCOTIA: 38 specimens examined; the earliest record is from 1908 (**Digby Co.:** Mt. Beaman, 22.v.1908, INHS). **PRINCE EDWARD ISLAND:** 18.vi.1962, L.S. Thompson, ACPE.

Recorded in Canada from British Columbia and from Manitoba to Newfoundland (McNamara 1991c); in the United States recorded primarily in northern states (Downie and Arnett 1996). Newly recorded in Prince Edward Island. Associated with *Abies balsamea* (L.) Mill. (Pinaceae) (Hopkins 1911).

***Pissodes strobi* (Peck, 1817)**

NOVA SCOTIA: 90 specimens examined; the earliest record is from 1963 (**Colchester Co.:** Stewiacke, 3.vi.1963, P.M. Tashereau, NSMC). **PRINCE EDWARD ISLAND:** **Kings Co.:** Harmony, 16.vi.1992, MacKay, (57), NFC; St. Patrick Rd., 17.vii.1992, MacKay, (31), NFC; **Prince Co.:** 4.3 km west of Miscouche, 31.vii.2003, D.B. McCorquodale, CBU; **Queens Co.:** St. Patricks, 25.vi.2003, C.G. Majka, CGMC.

Recorded in Canada from British Columbia to Newfoundland (McNamara 1991c); scattered distribution throughout much of the United States except the southwest (O'Brien and Wibmer 1982). Newly recorded in Prince Edward Island. Associated with *Pinus strobus*, *Picea glauca*, and other pines and spruces (Williams and Langor 2002).

Curculionidae: Scolytinae

***Hylurgops rugipennis pinifex* (Fitch, 1858)**

NOVA SCOTIA: 699 specimens examined; the earliest record is from 1948 (**Halifax Co.:** Armdale, 21.v.1948, D.C. Ferguson, NSMC). **PRINCE EDWARD ISLAND:** **Kings Co.:** Woodville Mills, 26.xii.2001, C.G. Majka, (2), CGMC.

Recorded in Canada from British Columbia to New Brunswick (McNamara 1991d); broadly distributed in the United States except for the Great Plains (Wood 1982). Newly recorded in Prince Edward Island. Associated with *Pinus* spp. (Wood 1982). In Nova Scotia found on both *Pinus strobus* and *P. banksiana*.

***Hylastes porculus* Erichson, 1836**

NOVA SCOTIA: 124 specimens examined; the earliest record is from 1952 (**Colchester Co.:** Truro, 13.vii.1952, V.R. Vickery, NSAC). **PRINCE EDWARD ISLAND:** **Queens Co.:** Harrington, 28.vi.2004, C. Noronha, ACPE.

Recorded in Canada from Manitoba to Nova Scotia (McNamara 1991d); found in the United States from Maine and South Dakota south to Texas and Florida (Wood 1982). Newly recorded in Prince Edward Island. Associated with *Pinus* spp. (Wood 1982).

***Dendroctonus rufipennis* (Kirby, 1837)**

NOVA SCOTIA: 329 specimens examined; the earliest record is from 1934 (**Annapolis Co.:** Bellisle, 12.viii.1934, (3), ACNS). **PRINCE EDWARD ISLAND:** **Kings Co.:** Woodville Mills, 23.vii.2001, C.G. Majka, CGMC; **Prince Co.:** Summerside, 4.ix.2001, C.G. Majka, (5), CGMC; **Queens Co.:** Charlottetown, 14.vi.1982 and 2.v.1984, L.S. Thompson, (5), ACPE; St. Patricks, 13.vii.2002, C.G. Majka, CGMC; Victoria, 12.v.1981 and 17.v.1981, V. Friesen, UPEI.

Recorded from Alaska and throughout Canada (McNamara 1991d); in the contiguous United States found primarily in the west and in New England (Wood 1982). Newly recorded in Prince Edward Island. Associated with *Picea* spp. (Wood 1982).

***Phloeotribus liminaris* (Harris, 1852)**

NOVA SCOTIA: **Colchester Co.:** Debert, 23.v.1995, J. Ogden, NSNR; Masstown, 11.vi.1993, M. Leblanc, NSNR.

Recorded in Canada from Saskatchewan to New Brunswick (McNamara 1991d); scattered records in eastern and central United States (Wood 1982). Newly recorded in Nova Scotia. Associated with *Prunus* spp. (Wood 1982).

***Phloeosinus pini* Swaine, 1915**

NOVA SCOTIA: **Cumberland Co.:** Wentworth, 21.v.-5.vi.1965, B. Wright, NSMC.

Recorded in Canada from the Yukon to Quebec (McNamara 1991d) and in the United States from Alaska and Michigan (Wood 1982). Newly recorded in Nova Scotia. Associated with *Picea glauca* and *Pinus banksiana* (Wood 1982).

***Scolytus multistriatus* (Marsham, 1802)**

NOVA SCOTIA: **Annapolis Co.:** Bridgetown, 10.vii.2001, M. Durling, (10), NSNR.

This introduced Palearctic species has been recorded in Canada from British Columbia and Manitoba to New Brunswick (McNamara 1991*d*) and is found throughout the United States (Wood 1982). Newly recorded in Nova Scotia. First recorded in North America in Massachusetts in 1909 (Bright 1976). Associated with *Ulmus* spp. (Wood 1982). This species is the principal vector of the Dutch elm disease fungus, *Ophiostoma ulmi* (Buisman) Nannf.

***Scolytus piceae* (Swaine, 1910)**

NOVA SCOTIA: Colchester Co.: Debert, 3.iv.1998, J. Ogden, (10), NSNR; Masstown, 29.vi.1990, T.D. Smith, NSNR.

Recorded in Alaska and throughout Canada (McNamara 1991*d*); in the contiguous United States recorded primarily in northern states but also south to California and New Mexico in the west (Wood 1982). Newly recorded in Nova Scotia. Associated with *Picea* spp. (Wood 1982).

***Scolytus rugulosus* (Müller, 1818)**

NOVA SCOTIA: Kings Co.: 7.vii.1950, R.E. Morehouse, (2), ACNS; Aldershot, 23.viii.1947 and 28.viii.1947, ACNS; Kentville, 14.ii.1959, ACNS; Pereaux, 28.ii.2000 and 4.vi.2004, ACNS; Starr's Point, 22.vi.1950, ACNS; Waterville, 7.viii.1946, ACNS. **PRINCE EDWARD ISLAND: Queens Co.:** St. Patricks, 14.vii.2002, C.G. Majka, CGMC.

This introduced Palearctic species has been recorded in Canada from British Columbia, Ontario, Quebec, and Nova Scotia (McNamara 1991*d*) and is found throughout the United States south to Chihuahua, Mexico (Wood 1982). Newly recorded in Prince Edward Island. First recorded in North America in New York in 1878 (Slingerland and Crosby 1919; Haack 2003). Associated with species of *Malus*, *Prunus*, and *Pyrus* and less frequently with species of *Crataegus*, *Cydonia* (Rosaceae), and *Ulmus* (Wood 1982).

***Orthotomicus caelatus* (Eichhoff, 1868)**

NOVA SCOTIA: 203 specimens examined; the earliest record is from 1947 (**Kings Co.:** Berwick, 26.v.1947, ACNS). **PRINCE EDWARD ISLAND: Prince Co.:** Wellington, 14.[illegible].1992, J.G. Stewart, ACPE; **Queens Co.:** Charlottetown, 14.vi.1984, L.S. Thompson, ACPE; Princeton-Warburton Rd., 27.vi.2003, C.G. Majka, (2), CGMC; St. Patricks, 14.vii.2002, C.G. Majka, CGMC;

Princeton-Warburton Rd., 27.vi.2003, C.G. Majka, (9), CGMC.

Recorded in Alaska and throughout Canada (McNamara 1991*d*); broadly distributed in the contiguous United States (Wood 1982). Newly recorded in Prince Edward Island. Associated with species of *Pinus*, *Picea*, and *Larix* (Pinaceae) (Wood 1982).

***Ips borealis* Swaine, 1911**

NOVA SCOTIA: 103 specimens examined; the earliest record is from 1961 (**Victoria Co.:** Ingonish, 30.x.1961, J.B. Thomas, CNC (Hopping 1965)). **PRINCE EDWARD ISLAND: Kings Co.:** Woodville Mills, 6.ix.2001 and 26.xii.2001, C.G. Majka, (5), CGMC; **Prince Co.:** Kensington, 8.vi.1954, F.M. Cannon, ACPE; **Queens Co.:** Charlottetown, 30.ix.1982, L.S. Thompson, ACPE; Charlottetown, 16.x.1985, M.E.M Smith, (3), ACPE; St. Patricks, 13.vii.2002, 14.vii.2002, 17.viii.2002, and 28.viii.2003, C.G. Majka, (13), CGMC; Princeton-Warburton Rd., 27.vi.2002, C.G. Majka, CGMC; Victoria, 15.v.1981, V. Friesen, (12), UPEL.

Recorded in Alaska and throughout Canada (McNamara 1991*d*); found in the contiguous United States from Maine, Minnesota, and Montana (Wood 1982). Newly recorded in Prince Edward Island. Associated with *Picea glauca* (Wood 1982).

***Ips grandicollis* (Eichhoff, 1868)**

NOVA SCOTIA: 31 specimens examined; the earliest record is from 1953 (**Halifax Co.:** Hammonds Plains, 7.v.1953, D. Gray, NSMC).

Recorded in Canada from Manitoba, Ontario, and Quebec (McNamara 1991*d*); broadly distributed in the United States south to Mexico, Central America, and the Caribbean islands (Wood 1982). Newly recorded in Nova Scotia. Associated with *Pinus* spp. (Wood 1982). In Nova Scotia found in association with *Pinus strobus* and occasionally with *Picea rubens*.

***Lymantor decipiens* (LeConte, 1878)**

NOVA SCOTIA: Queens Co.: Caledonia, 25.vii.1992, J. and F. Cook, JCC; Medway River, 13.vii.1993, J. and T. Cook, JCC; **Yarmouth-Shelburne counties:** Oak Park Rd., 27.viii.1992, J. and F. Cook, (3), JCC.

Recorded in Canada from Ontario and Quebec (McNamara 1991*d*); scattered records in the northeastern and north-central United States (Wood 1982). Newly recorded in Nova Scotia.

Associated with species of *Acer*, *Hamamelis* (Hamamelidaceae), *Rhus* (Anacardiaceae), and *Salix* (Wood 1982).

***Dryocoetes affaber* (Mannerheim, 1852)**

NOVA SCOTIA: 177 specimens examined; the earliest record is from 1984 (**Lunenburg Co.:** Bridgewater, 22.v.1984, B. Wright, NSMC). **PRINCE EDWARD ISLAND: Kings Co.:** Woodville Mills, 23.vii.2001, C.G. Majka, (2), CGMC; **Prince Co.:** O'Leary, 9.xi.1983, L.S. Thompson, (6), ACPE; Summerside, 4.ix.2001, C.G. Majka, CGMC; **Queens Co.:** St. Patricks, 14.vii.2002, 18.viii.2002, and 27.vi.2003, C.G. Majka, (8), CGMC.

Recorded in Alaska and throughout Canada (McNamara 1991*d*); scattered records throughout the contiguous United States (Wood 1982). Newly recorded in Prince Edward Island. Associated primarily with *Picea* spp. and rarely with other conifers (Wood 1982).

***Dryocoetes autographus* (Ratzeburg, 1837)**

NOVA SCOTIA: 483 specimens examined; the earliest record is from 1953 (**Kings Co.:** New Minas, 6.i.1953, ACNS). **PRINCE EDWARD ISLAND: Kings Co.:** Launching, 26.viii.2003, C.G. Majka, (2), CGMC; Woodville Mills, 23.vii.2001, C.G. Majka, CGMC; **Queens Co.:** Charlottetown, 9.v.1983 and 16.x.1985, L.S. Thompson, (3), ACPE; Wood Islands, 30.vi.2003, C.G. Majka, CGMC.

Recorded in Alaska and throughout Canada (McNamara 1991*d*); scattered records throughout the contiguous United States (Wood 1982). Newly recorded in Prince Edward Island. Associated with species of *Abies*, *Picea*, *Pinus*, and *Tsuga* (Pinaceae) (Wood 1982).

***Crypturgus borealis* Swaine, 1917**

NOVA SCOTIA: 227 specimens examined; the earliest record is from 1990 (**Halifax Co.:** Point Pleasant Park, 5.vii.1990, R. Ballard, NSMC). **PRINCE EDWARD ISLAND: Queens Co.:** Pinette, 24.vi.2003, C.G. Majka, CGMC; Princeton-Warburton Rd., 27.vi.2003, C.G. Majka, CGMC; St. Patricks, 14.vii.2002, 17.viii.2002, 18.viii.2002, and 27.vi.2003, C.G. Majka, (7), CGMC; Princeton-Warburton Rd., 27.vi.2003, C.G. Majka, CGMC.

Recorded in Alaska and throughout Canada (McNamara 1991*d*); in the contiguous United States found primarily in the north (Wood 1982). Newly recorded in Prince Edward

Island. Associated with species of *Abies*, *Picea*, and *Pinus* (Wood 1982).

***Trypodendron retusum* (LeConte, 1868)**

NOVA SCOTIA: Colchester Co.: Mass-town, 6.v.1993, M. Leblanc, NSNR; **Kings Co.:** North Alton, 5.vi.2004, D.H. Webster, (2), DHWC.

Recorded in Alaska and in Canada from the Yukon to New Brunswick (McNamara 1991*d*); found throughout much of the contiguous United States except for the southeast (Wood 1982). Newly recorded in Nova Scotia. Associated with *Populus* spp. (Wood 1982). In Nova Scotia found on *Populus tremuloides*.

***Xyloterinus politus* (Say, 1826)**

NOVA SCOTIA: 321 specimens examined; the earliest record is from 1945 (**Halifax Co.:** Armdale, 11.iv.1945, R.G. Brown, (20), NSMC). **PRINCE EDWARD ISLAND: Queens Co.:** Charlottetown, 19.viii.1978, L.S. Thompson, (3), ACPE.

Recorded in Alaska and in Canada from the Yukon to New Brunswick (McNamara 1991*d*); scattered localities in the northeastern and north-central United States (Wood 1982). Newly recorded in Prince Edward Island. Associated with species of *Acer*, *Alnus*, *Betula*, *Carya*, *Castanea* (Fagaceae), *Fagus*, *Fraxinus*, *Quercus*, and *Ulmus* and rarely with species of *Picea*, *Pinus*, and *Tsuga* (Wood 1982).

***Xyleborus obesus* LeConte, 1868**

NOVA SCOTIA: Colchester Co.: Debert, 23.v.1995 and 26.v.1995, J. Ogden, (3), NSNR; Masstown, 11.vi.1993, 18.vi.1993, 30.vi.1993, 8.vii.1993, and 23.vii.1993, M. Leblanc, (30), NSNR; Nuttby Mt., 18.v.1995 and 3.vi.1995, C. Corkum, (6), NSMC; **Cumberland Co.:** Fox River, 3.vi.1995, C. Corkum, (2), NSMC; **Pictou Co.:** Marshy Hope, 30.vi.1994 and 25.v.1995, M. Leblanc, NSNR.

Recorded in Canada from Ontario and Quebec (McNamara 1991*d*) and in the United States from Connecticut, Minnesota, and Wisconsin (Wood 1982). Newly recorded in Nova Scotia. Associated with *Fagus grandifolia*, *Populus tremuloides*, and *Quercus* spp. (Wood 1982).

***Xyleborus sayi* (Hopkins, 1915)**

NOVA SCOTIA: Colchester Co.: North River, 15.vi.2005, J. Ogden, NSNR; **Guysborough Co.:** Dayspring Lake, 14.v.-2.vi.1997,

D.J. Bishop, NSMC; **Halifax Co.:** Armdale, 21.vi.1974, K. Neil, NSMC; Grassy Lake, 1–16.vii.1997, D.J. Bishop, NSMC; Lake Little, 2–15.vi.1997, D.J. Bishop, NSMC; Sandy Lake, 1–16.vii.1997, D.J. Bishop, NSMC; **Hants Co.:** Little Armstrong Lake, 2–15.vi.1997, D.J. Bishop, NSMC; **Lunenburg Co.:** Card Lake, 2–15.vi.1997, D.J. Bishop, NSMC; **Queens Co.:** Cobreille Lake, 27.vi.–6.vii.2004, H. Love, (4), NSMC.

Recorded in Canada from Ontario and Quebec (McNamara 1991*d*); in the United States found primarily in the northeast (Wood 1982). Newly recorded in Nova Scotia. Associated with species of *Acer*, *Betula*, *Castanea*, *Cornus*, *Fagus*, and *Kalmia* and other deciduous trees (Wood 1982).

***Xyleborinus saxeseni* (Ratzeburg, 1837)**

NOVA SCOTIA: **Colchester Co.:** 18.vi.1993, M. Leblanc, (3), NSNR; **Hants Co.:** Smiley's Park, 10.vi.2004, J. Ogden and M. Wood; **Kings Co.:** Kentville, 24.vii.2003, D.H. Webster, DHWC; **Lunenburg Co.:** Lunenburg, 18.viii.1994, J. Ogden, NSNR; **Yarmouth Co.:** Tuskent, 15.iv.2003, D. Nickerson, (8), NSNR.

Recorded in Canada from British Columbia, Ontario, and Quebec (McNamara 1991*d*); widely distributed in the United States south to Mexico (Wood 1982). Newly recorded in Nova Scotia. Associated with various deciduous trees and with species of *Pinus* and *Tsuga* (Bright 1976; Wood 1982).

***Cryphalus ruficollis ruficollis* Hopkins, 1915**

NOVA SCOTIA: 71 specimens examined; the earliest records are from 1990 (**Halifax Co.:** Point Pleasant Park, 21.vi.1990, S. Robertson, NSMC; Point Pleasant Park, 22.vi.1990, S. Robertson, NSMC).

This species was reported from Prince Edward Island by Bright (1976), Wood (1982), and McNamara (1991*d*). However, no specimens of *C. r. ruficollis* from this province were found in any collection. Wood (1982) cited a record from "Riley Brook, PEI"; however, no such location exists on Prince Edward Island, whereas there are specimens of *C. r. ruficollis* from Riley Brook, Victoria County, New Brunswick, in the CNC (6.vii.1970, D.E. Bright, (5)). Also in the CNC are three confusing specimens labeled "P. E. Island N. B., 18.vii.1929, L.J. Simpson, red pine twigs". There is no locality of this name in New Brunswick, and

while L.J. Simpson did collect Scolytinae in New Brunswick, there is no indication that he ever collected on Prince Edward Island. Red pine (*Pinus resinosa*) is also rare and local on PEI (Erskine 1985), whereas it is widely distributed in New Brunswick (Hinds 2000). Therefore we consider that previous reports of this species on Prince Edward Island have been in error and the species is accordingly removed from the province's faunal list.

***Pseudopityophthorus minutissimus* (Zimmerman, 1868)**

NOVA SCOTIA: **Halifax Co.:** south-end Halifax, 6.vi.2001, C.G. Majka, CGMC; **Lunenburg Co.:** Bridgewater, 19.vi.1965, B. Wright, (25), NSMC; Bridgewater, 30.vi.1965, B. Wright, (30), NSMC; **Queens Co.:** Caledonia, 25.vii.1992, J. and F. Cook, (2), JCC; Medway River, 13.vii.1993, J. and T. Cook, (7), JCC.

Recorded in Canada from Ontario and Quebec (McNamara 1991*d*); widely distributed in the eastern and central United States (Wood 1982). Newly recorded in Nova Scotia. Associated with *Quercus* spp. (Bright 1976; Wood 1982).

***Pityophthorus carinatus carinatus* Bright, 1978**

NOVA SCOTIA: **Colchester Co.:** Mass-town, 7.vi.1990, M. Leblanc, NSNR; **Cumberland Co.:** New Yarmouth, 17.v.1995, C. Corkum, NSMC; **Guysborough Co.:** Melopseketch Lake, 18.v.1995, C. Corkum, NSMC; **Kings Co.:** Canard, spring 1956, (2), ACNS; Melanson, 14.v.1961, D.H. Webster, DHWC.

Recorded in Canada from Quebec and New Brunswick and in the United States from New York (Bright 1981). Newly recorded in Nova Scotia. Associated with *Picea* spp. and *Pinus strobus* (Bright 1981).

***Pityophthorus ramiperda* Swaine, 1917**

NOVA SCOTIA: **Annapolis Co.:** Channel Lake, 12–22.viii.2004, H. Love, NSMC.

Recorded in Canada from Ontario and Quebec and in the United States from Maine west to Wisconsin (Bright 1981). Newly recorded in Nova Scotia. Associated with *Pinus strobus* (Bright 1981).

***Monarthrum mali* (Fitch, 1855)**

NOVA SCOTIA: 33 specimens examined; the earliest record is from 1965 (**Lunenburg**

Co.: Bridgewater, 16–19.vi.1965, B. Wright, NSMC).

Recorded in Canada from Ontario, Quebec, and New Brunswick (McNamara 1991*d*); widely distributed in the United States (Wood 1982). Newly recorded in Nova Scotia. Associated with species of *Acer*, *Betula*, *Fagus*, *Quercus*, and *Tilia* (Wood 1982).

***Corthylus columbianus* Hopkins, 1894**

NOVA SCOTIA: Queens Co.: Kejimikujik National Park, 22.vii.2004, M. Leblanc, NSNR.

Recorded in the United States from Kansas and Massachusetts south to Tennessee and Georgia (Wood 1982). Newly recorded in Nova Scotia and Canada as a whole. Associated with species of *Acer*, *Castanea*, *Quercus*, and *Ulmus* (Wood 1982).

Excluded species

Curculionidae: Curculioninae

***Curculio sulcatulus* (Casey, 1897)**

Both McNamara (1991*c*) and O'Brien and Wibmer (1982) listed this species from Nova Scotia on the strength of Gibson's publication (Gibson 1969), which included Nova Scotia in its range summary and indicated all of southern Nova Scotia on a corresponding range map. Gibson (1969), however, provided no specimen records, and examination of collections has yielded no specimens from Nova Scotia. Accordingly this species is removed from the faunal list of Nova Scotia and from that of the Maritime Provinces as a whole.

Curculionidae: Ceutorhynchinae

***Ceutorhynchus squamatus* LeConte, 1876**

McCorquodale *et al.* (2005) reported a specimen identified as this species collected on Cape Breton Island. Subsequently a specimen of *Ceutorhynchus oregonensis* was found in Truro, Nova Scotia (see account above), and R.S. Anderson realized that the former determination was incorrect and that both specimens were *C. oregonensis*. It has not been possible to relocate the former specimen, but we are confident of Anderson's conclusion and consequently remove *C. squamatus* from the species list of Nova Scotia and from the Maritime Provinces as a whole.

Curculionidae: Scolytinae

***Ips calligraphus* (Germar, 1824)**

This species was reported in Nova Scotia from the vicinity of Halifax by Bright (1976) and McNamara (1991*d*). It is otherwise found in Canada in Ontario and Quebec, throughout the United States, and south through Central America and the Caribbean islands (Wood 1982). However, no specimens of *I. calligraphicus* were located in any collection examined. The record is not included in Wood (1982), nor could its source in Bright (1976) be found (D.E. Bright, personal communication). Consequently we consider that the report was in error and remove *I. calligraphicus* from the faunal list of Nova Scotia and from the Maritime Provinces as a whole.

Discussion

As a result of these investigations, 244 species of Curculionoidea are now known to have been recorded in Nova Scotia and 92 species have been found on Prince Edward Island (Table 1). Together with the 206 species reported for New Brunswick by Majka *et al.* (2007*b*), the combined regional fauna of the Maritime Provinces is now known to be 290 species, of which 220 are Nearctic, 10 are Holarctic, 59 are Palearctic, and 1 is Oriental in origin.

Seventy-nine species (9 introduced and 70 native) have been recorded in Nova Scotia for the first time, while on Prince Edward Island 66 species (27 adventive and 39 native) are newly recorded. Thirty-five species are recorded for the first time in the Maritime Provinces, and four of these — *Ceutorhynchus pallidactylus*, *Listronotus dietzi*, *Corthylus columbianus*, and *Orchidophilus aterrimus* — are newly recorded in Canada. *Orchidophilus aterrimus* has been collected only in exotic domesticated orchids and is not established in the wild. Fourteen species previously recorded on Cape Breton Island, Nova Scotia, by McCorquodale *et al.* (2005) are newly reported from the mainland of the province.

Four species, *Curculio sulcatulus*, *Ceutorhynchus squamatus*, *Tachyerges niger*, and *Ips calligraphus*, have been removed from the Nova Scotia faunal list, and three species, *Temnocerus cyanellus*, *Curculio nasicus*, and *Cryphalus r. ruficollis*, are removed from the faunal list of Prince Edward Island. *Curculio sulcatulus*, *Ceutorhynchus squamatus*, and *Ips calligraphus* are consequently removed from the

faunal list of the Maritime Provinces as a whole. *Bagous planatus*, *Plocamus hispidulus*, and *Dryocoetes granicollis* have been removed from the faunal list of New Brunswick and that of the Maritime Provinces as a whole by Majka *et al.* (2007b).

The regional totals in Table 1 give some indication of the adequacy of collection effort. In Nova Scotia there are 1227 county records, while on Prince Edward Island the corresponding total is 157. Although some variation is, of course, to be expected, to discern distributional patterns within the region a more balanced collection effort would be desirable. Nonetheless the information presented in Table 1 is instructive, partly to indicate profitable avenues for further study. Notable, for instance, is the dearth of records of Nemonychidae, Anthribidae, and Attelabidae in Prince Edward Island, Cape Breton Island, and northern Nova Scotia.

Within Nova Scotia, where collection effort has been greatest, it is possible to begin to investigate more detailed distribution patterns. With 244 species of Curculionoidea occurring in Nova Scotia, a full investigation of their distribution patterns is beyond the scope of this paper. It is, however, possible to illustrate some general patterns that are deserving of fuller investigation.

(a) There are 52 species of weevils that are broadly distributed throughout Nova Scotia, having been recorded in all five of the principal geographical subregions of the province (Appendix A). Of those, the following 19 species have been recorded from 14 or more (at least 78%) of the province's 18 counties: *Anthonomus signatus*, *Tychius picirostris*, *T. stephensi*, *Strophosoma melanogrammum*, *Otiorhynchus ovatus*, *O. singularis*, *O. sulcatus*, *Barypeithes pellucidus*, *Sciaphilus asperatus*, *Sitona lineellus*, *Hypera nigrirostris*, *Hylobius congener*, *Dendroctonus rufipennis*, *Polygraphus rufipennis*, *Dryocoetes affaber*, *D. autographus*, *Crypturgus borealis*, *Trypodendron lineatum*, and *Xyleborus dispar*. They constitute some of the most abundant and widely distributed species in the province.

(b) There are seven native species of weevils that have been recorded solely on Cape Breton Island and not on the Nova Scotia mainland: *Notaris puncticollis*, *Bagous restrictus*, *B. transversus*, *Ceutorhynchus omissus*, *Auleutes epilobii*, *Perigaster liturata*, and *Pityophthorus pulchellus*. See below for a discussion of island faunas and the particular climatic, physiographic,

and zoogeographic factors of Cape Breton Island.

(c) There are eight native species of weevils recorded in Nova Scotia solely from the Annapolis Valley and environs: *Coelocephalopion carinatum*, *Sphenophorus costipennis*, *S. parvulus*, *S. striatipennis*, *Anthonomopsis mixta*, *Tachyerges salicis*, *Stenoscelis brevis*, *Listronotus dietzi*, and *Magdalis salicis*. The records of all these species lie within the Annapolis–Minas Lowlands Ecoregion of the Atlantic Maritime Ecozone (Environment Canada 2005). This is a warmer portion of the province, one of only three pockets where the average annual degree-days above 5 °C (growing degree-days) exceed 1800 (McCalla 1988; Natural Resources Canada 1995).

(d) There are 10 native species of weevils recorded in Nova Scotia solely from areas in the southern portion of the province: *Curculio nasicus*, *Anthonomus pictus*, *Eurymycter latifascia*, *Piazorhinus pictus*, *Acallodes saltoides*, *Dendroctonus simplex*, *Lymantor decipiens*, *Pityophthorus intextus*, *P. ramiperda*, and *Corthylus columbianus*. The records of all these species lie within the Southwest Nova Scotia Lowlands Ecoregion of the Atlantic Maritime Ecozone (Environment Canada 2005). Of these species, the latter eight have been found in the Lake Kejimikujik – Lake Rossigniol area in the central portion of the ecoregion. This area is also a warmer pocket of the province where the average annual degree-days above 5 °C (growing degree-days) exceed 1800 (McCalla 1988; Natural Resources Canada 1995).

As is typical in the case of island faunas, the number of native weevils on Prince Edward Island (54 species) is diminished, being only 24.2% of the combined mainland fauna of New Brunswick and Nova Scotia. Cape Breton Island, which has a land area slightly more than twice the size of PEI (10 311 km² vs. 5 660 km²) and is separated from the mainland by only 1.5 km (in contrast to the 13 km that separate New Brunswick and PEI), also has a diminished fauna (62 species), 27.8% of the mainland fauna. This may reflect an island-related diminution of species, a comparative lack of collection effort, or a combination of both. As regards the relatively better-investigated Coccinellidae, the Prince Edward Island and Cape Breton Island faunas represent 39% and 41%, respectively, of the native mainland fauna (Majka and McCorquodale 2006),

perhaps indicating that the collection effort for weevils in both areas has been less than adequate.

Another biogeographical topic of particular interest and relevance in Nova Scotia because of its climate, geography, and geological history is that of disjunct populations. During the last Pleistocene glaciation Georges Bank, at the mouth of the Bay of Fundy, remained unglaciated. Approximately 21 000 years BP the glaciers on the continental shelf of Nova Scotia began to melt so that by *circa* 14 500 years BP most of the offshore banks were emergent and stayed so for a period of several thousand years. Georges Bank was contiguous with the Cape Cod region and was separated from Browns Bank by only the relatively narrow (~40 km) Northeast Channel (King 1996; Shaw and Gareau 2002). The so-called “coastal-plain flora” of Nova Scotia is thought to have made its way to the province via this network of offshore refugia (Keddy and Wisheu 1989). Beetles such as *Naemia s. seriata* Melsheimer, *Diomus amabilis* (LeConte), *Hyperaspis troglodytes* Mulsant (Majka and McCorquodale 2006), *Atheta novascotiae* Klimaszewski and Majka (Klimaszewski *et al.* 2006), and *Quedius s. spelaeus* Horn (Moseley *et al.* 2006) have all been proposed as invertebrate members of an analogous coastal plain fauna. All these species have population centers in southern New England and (or) central Canada and are absent from northern New England and most of Atlantic Canada, but are found in southern and central Nova Scotia.

There are 13 species of weevils native to Nova Scotia that are candidates for consideration as “disjunct” species (Appendix B). These are species that have not been recorded in the neighbouring jurisdictions of Vermont, New Hampshire, Maine, New Brunswick, Prince Edward Island, and Newfoundland and Labrador but are present in southern and central Nova Scotia, apparently indicating Nova Scotia populations that are disjunct from the main range of the species.

It is probable that some of these species do not represent such disjunct populations and that insufficient collecting in neighbouring jurisdictions is responsible for some of the apparent gaps in distribution. Nonetheless, it is possible (and worthy of further investigation) that some of them do represent *bona fide* isolated populations present in the province as a result of the postglacial mechanism outlined above or via

some other historical process. Additional collecting will help resolve such questions.

Within the Maritime Provinces there are 67 native species of weevils recorded in Nova Scotia but not in New Brunswick. These include the 13 possible “disjunct” species discussed above and 54 others (Appendix C). Given that collecting effort (*i.e.*, the total number of specimens) in New Brunswick is only 14% of that in Nova Scotia, it is possible that many of these 54 species will be collected in New Brunswick in the future.

There are also 41 species of native weevils that have been recorded in New Brunswick but not in Nova Scotia (Appendix D). Some of these may represent species found in habitats or environments not present in Nova Scotia. Others may represent species that have not spread into Nova Scotia, having found geographical features such as the Bay of Fundy, the Tantramar Marshes, or the Cobequid Highlands an obstacle to dispersion. A distribution of species attenuated across the isthmus of Chignecto has been well established in the case of freshwater fish (Livingston 1951), freshwater mussels (Athearn and Clarke 1962), and amphibians (Gilhen 1984). Amongst the Coleoptera there are species such as *Gaurotes cyanipennis* (Say) (Cerambycidae) (NSMC) and *Chrysochus auratus* (Fabricius) (Chrysomelidae) (NBM) that have been recorded in Westmoreland County, New Brunswick, adjacent to the Nova Scotia boundary, but not in Nova Scotia.

There is only one native weevil found on Prince Edward Island that has not been recorded in either New Brunswick or Nova Scotia (*Rutidosoma decipiens*). There are, however, two species, *Bagous restrictus* and *B. transversus*, that have been recorded in the Maritime Provinces solely on Cape Breton Island (in addition to five species that within Nova Scotia have been recorded only on Cape Breton Island (see above)). In addition to being an island, portions of Cape Breton (particularly the highlands) have a climate and physiography that support a taiga and boreal forest community distinct from that of mainland Nova Scotia (Davis and Browne 1996).

There are leafhoppers (Hamilton and Langor 1987), mammals (Roscoe and Majka 1976), and plants (Roland and Smith 1969) that have been found on Cape Breton Island but not on the mainland of Nova Scotia, and beetles such as *Helophorus lineatus* Say (Hydrophilidae), *Enchodes sericea* (Haldeman), *Phryganophilus*

collaris LeConte (Melandryidae), *Mordellistena aspersa* (Mordellidae), *Dytiscus alaskanus* Balfour-Brown, *Laccornis conoideus* (LeConte), *Liodessus noviaffinis* Miller, *Hydrocolus persimilis* (Crotch), *Hygrotus nubilis* (LeConte), *Agabus discolor* (Harris), *Acilius athabascae* Larson, and *Graphoderus perplexus* Sharp (Dytiscidae) (Partridge and Lauff 1999; Larson et al. 2000; Majka and Jackman 2006; Majka and Pollock 2006) also fall into this category.

For the 60 introduced species found in the region, Table 2 summarizes (from a large number of sources) the earliest known records of each species in each of the three provinces as well as in North America as a whole. Possible modes of introduction are indicated, although it should be emphasized that in many instances these remain conjectural. In the case of 10 species — *Omphalapion hookerorum*, *Ceutorhynchus typhae*, *Hadroplontus litura*, *Barynotus moerens*, *Otiorhynchus rugostriatus*, *O. scaber*, *Sciaphilus asperatus*, *Tropiphorus obtusus*, *T. terricola*, and *Hylobius transversovittatus* — the records from the Maritime Provinces are the earliest known dates of detection on the continent (although two, *H. litura* and *H. transversovittatus*, were introduced deliberately for biocontrol), an indication of the importance of this region in the historical colonization of North America by introduced species, a subject explored in detail by Lindroth (1957) and Brown (1940, 1950, 1967).

Table 2 also illustrates that processes of introduction are ongoing, since 15 introduced species have been found for the first time in the Maritime Provinces within the past two decades (including four deliberate introductions). Indeed, six species — *Perapion curtirostre*, *Rhopalopion longirostre*, *Otiorhynchus raucus*, *Phyllobius intrusus*, *Polydrusus cervinus*, and *Trachyphloeus aristatus* — have been discovered in the region within the past 5 years. Of the 60 introduced species in the region, 39 were first recorded in Nova Scotia, 18 in New Brunswick, and 3 in Prince Edward Island. There are 18 introduced species recorded in Nova Scotia but not in New Brunswick or PEI, whereas there are only two (*Cleonis pigra* and *Phyllobius intrusus*) found in New Brunswick but not in Nova Scotia or PEI. These numbers reflect the importance of Nova Scotian ports such as Halifax in early transatlantic commerce and the consequent spread of introduced species westward. They also reflect both the collecting history of Nova Scotia and the much more

extensive collections of specimens from this province.

In the case of the 10 introduced species recorded first in the Maritime Provinces (see above), there is historical evidence indicating that the initial introductions from Europe took place within this region. Other introduced species may have been introduced directly from European sources, may have dispersed naturally into the region from other places on the continent, or may have arrived through human agency. Meagre historical collections are often insufficient to fully resolve the history and chronology of introductions. Synanthropic species such as *Sitophilus granarius* and *S. oryzae* certainly arrived with human assistance. It seems probable that Nova Scotia populations of *Amalus scortillum*, *Ceutorhynchus pallidactylus*, *Strophosoma melanogrammmum*, *Otiorhynchus raucus*, *O. rugostriatus*, *Polydrusus impressifrons*, *Trachyphloeus aristatus*, and *T. asperatus* represent separate introduction events, since these populations appear significantly disjunct from other North American population centres.

Brown (1950) and Lindroth (1957) both developed the theory that many Palearctic species, particularly terricolous ones, had been introduced to the New World via the medium of dry ballast. Brown (1950) noted that large quantities of dry ballast (bulky rock, sand, and soil) were unloaded at Maritime ports by British vessels that then returned to Europe carrying timber. Lindroth (1957) investigated this topic further, conducting extensive surveys at eight principal sites in Great Britain known to have been sources of ballast in the transatlantic shipping trade. Ten of the adventive weevils in the Maritime Provinces (*Omphalapion hookerorum*, *Tychius picirostris*, *Philopeton plagiatum*, *Otiorhynchus ligneus*, *O. ovatus*, *O. rugostriatus*, *O. sulcatus*, *Sitona flavescens*, *S. hispidulus*, and *Hypera postica*) were found by Lindroth (1957) at these locations. Indeed, of the 60 adventive species found in the Maritimes, only six (*Rhopalopion longirostre*, *Gymnetron tetrum*, *Orchidophilus aterrimus*, *Barynotus schoenherri*, *Phyllobius intrusus*, and *Polydrusus impressifrons*) are not found in Great Britain.

Thus, 20.3% of the weevil fauna of the Maritime Provinces consists of introduced species, a proportion over a third larger than the overall 14.8% of the beetle fauna that is introduced in Nova Scotia (C. Majka, unpublished data). The effects of all these introduced species on the native fauna remain largely uninvestigated;

however, studies such as that of Maerz *et al.* (2005) indicate that adventive species such as *Barypeithes pellucidus* can significantly affect native ecosystems.

Table 1. Species of Curculionoidea of the Maritime Provinces of Canada: number of counties with records.

Species	New*	Nova Scotia					Total	PEI	NB
		Northern Shore	Cape Breton	Eastern Shore	South Shore	Bay of Fundy			
NEMONYCHIDAE									
Cimberidinae									
Cimberidini									
<i>Cimberis elongata</i> (LeConte)	P			2	2	4		1	
<i>Cimberis pallipennis</i> (Blatchley)	A			1	2	3			
<i>Cimberis pilosa</i> (LeConte)									1
ANTHRIBIDAE									
Anthribinae									
Allandrini									
<i>Allandrus bifasciatus</i> LeConte									1
<i>Allandrus populi</i> Pierce	A			1		1			
Tropiderini									
<i>Eurymycter fasciatus</i> (Olivier)									1
<i>Eurymycter latifascia</i> Pierce	A				1	1			
Trigonorhinini									
<i>Trigonorhinus limbatus</i> (Say)	A				2	1	3		
<i>Trigonorhinus sticticus</i> (Boheman)	P							1	1
Cratoparini									
<i>Euparius marmoreus</i> (Olivier)	P				1	2	3		2
ATTELABIDAE									
Attelabinae									
<i>Attelabus bipustulatus</i> Fabricius				1	2	1	4		
<i>Himatolabus pubescens</i> (Say)			1	2	1	4		6	
Rynchitinae									
Rhynchitini									
<i>Temnocerus cyanellus</i> (LeConte)		1	1	1	1	2	6		4
<i>Temnocerus perplexus</i> (Blatchley)				1			1	1	1
Auletini									
<i>Auletobius cassandrae</i> (LeConte)	P	2		1	3	3	9	1	4
APIONIDAE									
Apioninae									
Aplemonini									
<i>Perapion curtirostre</i> (Germar) [‡]		2	1	1	1	4	9	2	2
Ceratapiini									
<i>Omphalapion hookerorum</i> (Kirby) [‡]		3	3	1		1	8		
Ixapiini									
<i>Neapion frosti</i> (Kissinger)				1	2	1	4		
Malvapiini									
<i>Rhopalapion longirostre</i> (Olivier) [‡]						1	1		
Oxystomatini									
<i>Eutrichapion cyanitinctum</i> (Fall)	P	1		1			2	1	1
<i>Trichapion centrale</i> (Fall)	A					1	1		
<i>Trichapion nigrum</i> (Herbst)									1
<i>Trichapion reconditum</i> (Gyllenhal)									1
<i>Trichapion simile</i> (Kirby)		2	2			2	6		4

Table 1 (continued).

Species	New*	Nova Scotia					Total	PEI	NB
		Northern Shore	Cape Breton	Eastern Shore	South Shore	Bay of Fundy			
Piezotrachelini									
<i>Fallapion finitimum</i> Fall									2
<i>Fallapion pennsylvanicum</i> (Boheman)	P	1		1	1	1	4		2
Incertae sedis									
<i>Coelocephalapion carinatum</i> (Smith)	A					1	1		
<i>Coelocephalapion emaciipes</i> (Fall)	A	1					1		
CURCULIONIDAE									
Dryophthorinae									
Dryophthorini									
<i>Dryophthorus americanus</i> Bedel		3		2	3	1	9		1
Rhynchophorini									
<i>Sitophilus granarius</i> (Linnaeus) [‡]	P	2	1	1		3	7	2	1
<i>Sitophilus oryzae</i> (Linnaeus) [‡]	P	3	1	1		1	6	1	
<i>Sphenophorus aequalis aequalis</i> Gyllenhal	A	1			2	1	4		
<i>Sphenophorus cariosus</i> (Olivier)				1			1		
<i>Sphenophorus costipennis</i> Horn	P					1	1	1	2
<i>Sphenophorus parvulus</i> (Gyllenhal)						1	1		
<i>Sphenophorus pertinax pertinax</i> (Olivier)					1	1	2		1
<i>Sphenophorus striatipennis</i> Chittenden	P		1			1	2		1
<i>Sphenophorus venatus venatus</i> (Say)	P			1	1		2		1
<i>Sphenophorus zaeae</i> Walsh	A			1			1	1	
Erihiniinae									
Erihiniini									
<i>Grypus equiseti</i> (Fabricius) [†]									2
<i>Notaris aethiops</i> (Fabricius) [†]				1	1		2		2
<i>Notaris puncticollis</i> (LeConte)	P		1			1	2	1	4
<i>Tournotaris bimaculatus</i> (Fabricius)				1		1	2		2
<i>Onychylis nigrirostris</i> (Boheman)	A			1	1		2		
<i>Tanysphyrus lemnae</i> (Fabricius) [†]	A	2					2		
Cuculioninae									
Curculionini									
<i>Curculio iowensis</i> (Casey)				1	1	1	3		
<i>Curculio nasicus</i> (Say)					1		1		1
<i>Curculio sulcatulus</i> (Casey)									
Acalyptini									
<i>Acalyptus carpini</i> (Herbst)		1	1				2		1
Anthonomini									
<i>Anthonomopsis mixta</i> (LeConte)	A					1	1		
<i>Anthonomus corvulus</i> LeConte	P	1		1	1	2	5	2	2
<i>Anthonomus elongatus</i> LeConte	P			1			1	1	3
<i>Anthonomus haematopus</i> Boheman	P		1			1	2	1	

Table 1 (continued).

Species	New*	Nova Scotia					Total	PEI	NB
		Northern Shore	Cape Breton	Eastern Shore	South Shore	Bay of Fundy			
<i>Anthonomus interstitialis</i> Dietz								1	
<i>Anthonomus lecontei</i> Burke	P	2		1			3	1	
<i>Anthonomus molochinus</i> Dietz	P	1					1	1	
<i>Anthonomus musculus</i> Say	A	1	1	1	2	1	6		
<i>Anthonomus pictus</i> Blatchley	A				1		1		
<i>Anthonomus profundus</i> LeConte				1	1		2	1	
<i>Anthonomus quadrigibbus</i> (Say)	P	1	1	1	2	1	6	3	
<i>Anthonomus robustulus</i> LeConte								1	
<i>Anthonomus rutilus</i> (Boheman)								1	
<i>Anthonomus signatus</i> Say		3	4	2	3	3	15	3	
<i>Anthonomus simiolus</i> Blatchley								1	
<i>Anthonomus subfasciatus</i> LeConte	A			1	1		2		
<i>Pseudanthonomus crataegi</i> (Walsh)				1			1	1	
<i>Pseudanthonomus seriesetosus</i> Dietz				2			2		
<i>Pseudanthonomus validus</i> Dietz	P	2	2	1	2	3	10	2	
Ellescini									
<i>Proctorus armatus</i> LeConte								1	
<i>Proctorus decipiens</i> (LeConte)		1		1	1	1	4	1	
<i>Dorytomus brevicollis</i> LeConte	A			1		1	2		
<i>Dorytomus laticollis</i> LeConte	A	1				2	3		
<i>Dorytomus luridus</i> (Mannerheim)		2	1		1	2	6		
<i>Dorytomus marmoreus</i> Casey				1	1		2		
<i>Dorytomus parvicollis</i> Casey	P	1				1	2	1	
<i>Dorytomus rufulus</i> (Mannerheim)			1		1	1	3		
<i>Dorytomus vagenotatus</i> Casey								3	
Mecinini									
<i>Gymnetron antirrhini</i> (Paykull) [‡]	P	3		1	1	2	7	2	
<i>Gymnetron pascuorum</i> (Gyllenhal) [‡]	P	2	1		2	2	7	2	
<i>Gymnetron tetrum</i> (Fabricius) [‡]	P	1	2	1		2	6	1	
<i>Mecinus janthinus</i> Germar [‡]		1				1	2		
Rhamphini									
<i>Isochnus populicola</i> (Silfverberg) [‡]	P	3	3	1	2	2	11	2	
<i>Isochnus rufipes</i> (LeConte)		1					1	1	
<i>Orchestes mixtus</i> (Blatchley)		1	1	1	1	1	5	1	
<i>Orchestes pallicornis</i> (Say)	P	2	3	3	3	2	13	3	
<i>Orchestes testaceus</i> (Müller) [†]				1	1		2	1	
<i>Tachyerges ephippiatus</i> (Say)		1	1	1		1	4	1	
<i>Tachyerges niger</i> (Horn)								1	
<i>Tachyerges salicis</i> (Linnaeus) [†]						1	1	2	
Smicronychini									
<i>Smicronyx corniculatus</i> (Fähræus)								1	
Tychiini									
<i>Tychius meliloti</i> Stephens [‡]	P	2	1	1			4	2	
<i>Tychius picirostris</i> (Fabricius) [‡]		4	3	1	3	4	15	3	
<i>Tychius stephensi</i> Schönherr [‡]	P	4	4	2	1	3	14	3	
<i>Lignyodes helvolus</i> (LeConte)								1	
Bagoinae									
<i>Bagous americanus</i> LeConte	P			1			1	1	

Table 1 (continued).

Species	New*	Nova Scotia					Total	PEI	NB
		Northern Shore	Cape Breton	Eastern Shore	South Shore	Bay of Fundy			
<i>Bagous nebulosus</i> LeConte								1	
<i>Bagous planatus</i> LeConte									
<i>Bagous restrictus</i> LeConte	A		1				1		
<i>Bagous transversus</i> LeConte			1				1		
Baridinae									
Baridini									
<i>Cosmobaris americana</i> Casey								1	
Madarini									
<i>Madarellus undulatus</i> (Say)	A	1		1		1	3		
<i>Orchidophilus aterrimus</i> (Waterhouse) [§]	A			1			1		
Madopterini									
<i>Cylindridia prolixa</i> (LeConte)	A	1					1		
<i>Dirabius rectirostris</i> (LeConte)	P	2		1			3	2 1	
<i>Plocamus hispidulus</i> LeConte									
<i>Stethobaris ovata</i> (LeConte)		1	2				3	1	
Ceutorhynchinae									
Ceutorhynchini									
<i>Amalus scortillum</i> (Herbst) [‡]		1	1			1	3	1	
<i>Ceutorhynchus americanus</i> Buchanan		2	1				3	3	
<i>Ceutorhynchus erysimi</i> (Fabricius) [‡]	P	1	1			1	3	1 1	
<i>Ceutorhynchus hamiltoni</i> Dietz		1	3	2	1	1	8	2 1	
<i>Ceutorhynchus neglectus</i> Blatchley								1	
<i>Ceutorhynchus omissus</i> Fall			1				1	1	
<i>Ceutorhynchus oregonensis</i> Dietz	P	1	1				2		
<i>Ceutorhynchus pallidactylus</i> (Marsham) [‡]	A				1		1		
<i>Ceutorhynchus semirufus</i> LeConte								1	
<i>Ceutorhynchus squamatus</i> LeConte									
<i>Ceutorhynchus typhae</i> (Herbst) [‡]		1				1	2	1	
<i>Glocianus punctiger</i> (Sahlberg) [‡]	P	2	2	1		2	7	2 2	
<i>Hadroplontus litura</i> (Fabricius) [‡]		1				1	2		
Cnemogonini									
<i>Acanthoscelidius acephalus</i> (Say)	P	1	1	1		1	4	2 1	
<i>Auleutes epilobii</i> (Paykull) [†]	P		1				1	1 1	
<i>Auleutes nebulosus</i> (LeConte)	P		2		1		3	1 1	
<i>Auleutes tenuipes</i> (LeConte)								1	
<i>Cnemogonus lecontei</i> Dietz								2	
<i>Perigaster cretura</i> (Herbst)								1	
<i>Perigaster liturata</i> (Dietz)	P		1				1	1 3	
Mononychini									
<i>Mononychus vulpeculus</i> (Fabricius)								1	
Phytobiini									
<i>Parenthis</i> sp., undescribed	P		2	1			3	1	
<i>Pelenomus fuliginosus</i> (Dietz)	P			1			1	2	
<i>Rhinoncus castor</i> (Fabricius) [‡]	P	1	1	2	1	2	7	2 2	

Table 1 (continued).

Species	New*	Nova Scotia					Total	PEI	NB
		Northern Shore	Cape Breton	Eastern Shore	South Shore	Bay of Fundy			
<i>Rhinoncus pericarpus</i> (Linnaeus) [‡]	P			1		1	2	2	2
<i>Rhinoncus pyrrhopus</i> Boheman	P	2		1	2		5	2	2
Scleropterini									
<i>Acallodes saltoides</i> Dietz	P					1	1		1
<i>Rutidosoma decipiens</i> (LeConte)	A							1	
Conoderinae									
Lechriopini									
<i>Acoptus suturalis</i> LeConte		2		1	1	1	5		1
<i>Lechriops oculata</i> (Say)	P	1		1	1	1	4	1	
Cossoninae									
Cossonini									
<i>Cossonus americanus</i> Buchanan				1			1		
<i>Cossonus platalea</i> Say		1					1		2
Onycholipini									
<i>Stenoscelis brevis</i> (Boheman)	A					1	1		
Rhyncolini									
<i>Carphonotus testaceus</i> Casey	P	2	2	2	1	3	10	2	1
<i>Himatium errans</i> LeConte				2	1	2	5		
<i>Rhyncolus brunneus</i> Mannerheim	P	2	3	1	2	2	10	1	1
<i>Rhyncolus macrops</i> Buchanan		3				1	4		
Phloeophagina									
<i>Phloeophagus apionides</i> Horn	A	1					1		
Cryptorhynchinae									
Cryptorhynchini									
<i>Cryptorhynchus lapathi</i> (Linnaeus) [†]		3	1	1		4	9	1	4
<i>Eubulus parochus</i> (Herbst)									1
<i>Tyloderma nigrum</i> Casey									2
Cyclominae									
Rhythirrinini									
<i>Listronotus alternatus</i> (Dietz)									1
<i>Listronotus appendiculatus</i> (Boheman)	P	1		1			2	1	1
<i>Listronotus caudatus</i> (Say)									1
<i>Listronotus dietzi</i> O'Brien	A					1	1		
<i>Listronotus delumbis</i> (Gyllenhal)	P	1		2		1	4		1
<i>Listronotus humilis</i> (Gyllenhal)									1
<i>Listronotus laramiensis</i> (Angell)									1
<i>Listronotus maculicollis</i> (Kirby)	P			1	1		2		3
<i>Listronotus o. oregonensis</i> (LeConte)	P	2			1		3	1	
<i>Listronotus sparsus</i> (Say)	P	2		1		1	4	1	2
<i>Listronotus squamiger</i> (Say)	P	1				1	2		1
<i>Listronotus tuberosus</i> LeConte									3
Entiminae									
Brachyderini									
<i>Strophosoma melanogrammum</i> (Forster) [‡]		4	4	1	2	4	15		
Cneorhinini									
<i>Philopedon plagiatum</i> (Schaller) [‡]		1	3	2			6	3	2

Table 1 (continued).

Species	New*	Nova Scotia					Total	PEI	NB
		Northern Shore	Cape Breton	Eastern Shore	South Shore	Bay of Fundy			
Geonemini									
<i>Barynotus moerens</i> (Fabricius) [‡]			1		1	1	3		
<i>Barynotus obscurus</i> (Fabricius) [‡]		4	4	1	2	2	13	2	3
<i>Barynotus schoenherri</i> Zetterstedt [‡]	P		3			1	4	1	3
Hormorini									
<i>Hormorus undulatus</i> (Uhler)	P		1	1	1		3	1	2
Otiiorhynchini									
<i>Otiiorhynchus ligneus</i> (Olivier) [‡]	P	2	2	1	2	2	9	3	3
<i>Otiiorhynchus ovatus</i> (Linnaeus) [‡]	P	3	3	2	3	4	15	2	7
<i>Otiiorhynchus raucus</i> (Fabricius) [‡]	A					1	1		
<i>Otiiorhynchus rugifrons</i> (Gyllenhal) [‡]			1				1		1
<i>Otiiorhynchus rugostriatus</i> (Goeze) [‡]		1	2	1	2	3	9		
<i>Otiiorhynchus scaber</i> (Linnaeus) [‡]		1		1			2		
<i>Otiiorhynchus singularis</i> (Linnaeus) [‡]		4	3	2	3	4	16	1	7
<i>Otiiorhynchus sulcatus</i> (Fabricius) [‡]		4	4	3	4	4	19	3	10
Peritelini									
<i>Nemocestes horni</i> Van Dyke		1			1	1	3		1
Phyllobiini									
<i>Phyllobius intrusus</i> Kôno [‡]									2
<i>Phyllobius oblongus</i> (Linnaeus) [‡]		2	3	2		2	9	2	2
Polydrusini									
<i>Pachyrhinus elegans</i> (Couper)				1	2	2	5		3
<i>Polydrusus cervinus</i> (Linnaeus) [‡]	A	1			1	1	3	2	
<i>Polydrusus impressifrons</i> (Gyllenhal) [‡]			1	1	1		3		2
<i>Polydrusus sericeus</i> (Schaller) [‡]	P		2	1	1	1	5	1	2
Sciaphilini									
<i>Barypeithes pellucidus</i> (Boheman) [‡]		4	2	1	3	4	14	3	3
<i>Sciaphilus asperatus</i> (Bonsdorff) [‡]	P	3	4	1	3	4	15	2	6
Sitonini									
<i>Sitona cylindricollis</i> (Fåhræus) [‡]	P	1	2	1			4	2	4
<i>Sitona flavescens</i> (Marsham) [‡]	P	3	3	1	1	1	9	3	9
<i>Sitona hispidulus</i> (Fabricius) [‡]	P	2	3	1	2	4	12	3	6
<i>Sitona lineellus</i> (Bonsdorff) [†]	P	4	4	2	2	3	15	3	9
Trachyphloeini									
<i>Trachyphloeus aristatus</i> (Gyllenhal) [‡]	A					2	2	1	
<i>Trachyphloeus asperatus</i> Boheman [‡]						1	1		
<i>Trachyphloeus bifoveolatus</i> (Beck) [‡]		2	2	1	3	4	12	1	4
Tropiphorini									
<i>Phyxelis rigidus</i> (Say)		1					1	1	1
<i>Tropiphorus obtusus</i> (Bonsdorff) [‡]					1		1		
<i>Tropiphorus terricola</i> (Newman) [‡]		2	1	1	1	1	6	1	1

Table 1 (continued).

Species	New*	Nova Scotia					Total	PEI	NB
		Northern Shore	Cape Breton	Eastern Shore	South Shore	Bay of Fundy			
Hyperinae									
Hyperini									
<i>Hypera castor</i> (LeConte)	P	1					1	1	1
<i>Hypera meles</i> (Fabricius) [‡]	P	1	3	1	1	1	7	1	5
<i>Hypera nigrirostris</i> (Fabricius) [‡]		4	3	2	1	4	14	3	7
<i>Hypera postica</i> (Gyllenhal) [‡]	P	2			1	2	5	2	1
<i>Hypera zoilus</i> (Scopoli) [‡]	P	3	2	2	1	2	10	2	3
Lixinae									
Lixini									
<i>Larinus planus</i> (Fabricius) [‡]		1	1		1	1	4		
Cleonini									
<i>Cleonis pigra</i> (Scopoli) [‡]									1
<i>Scaphomorphus calandroides</i> (Randall)									1
Mesoptiliinae									
Magdalinini									
<i>Magdalis armicollis</i> Say	P	1					1		1
<i>Magdalis barbata</i> (Say)	A	1				1	2		
<i>Magdalis gentilis</i> LeConte	P	2				1	3		1
<i>Magdalis perforata</i> Horn	A			1			1		
<i>Magdalis piceae</i> Buchanan	A			1			1		
<i>Magdalis salicis</i> Horn	A					1	1		
Molytinae									
Molytini									
<i>Sthereus ptinoides</i> (Germar) [†]			1		1	1	3		
Conotrachelini									
<i>Conotrachelus anaglypticus</i> (Say)									1
<i>Conotrachelus nenuphar</i> (Herbst)		1	1	2	1	3	8		1
<i>Conotrachelus posticatus</i> Boheman	P			1	2	1	4		
Hylobiini									
<i>Hylobius congener</i> Dalla Torre <i>et al.</i>	P	4	4	2	3	4	17	3	5
<i>Hylobius pales</i> (Herbst)				1	2	1	4		3
<i>Hylobius pinicola</i> (Couper)		3	2	2	2	2	11		3
<i>Hylobius transversovittatus</i> Goetz [‡]						1	1		
<i>Hylobius warreni</i> Wood		1		2			3		1
Piazorhinini									
<i>Piazorhinus pictus</i> LeConte	A				1		1		
<i>Piazorhinus scutellaris</i> (Say)		3	1	2	1	1	8		1
Pissodini									
<i>Pissodes affinis</i> Randall		1		1	1	2	5		5
<i>Pissodes fiskei</i> Hopkins	P	3	2	2	1	2	10	1	2
<i>Pissodes nemorensis</i> Germar	P	2		2	2	3	9	1	6
<i>Pissodes rotundatus</i> LeConte			1				1		3
<i>Pissodes similis</i> Hopkins	P	4	3			2	9		1
<i>Pissodes striatulus</i> (Fabricius)	P	2	4	1	1	2	10	1	8
<i>Pissodes strobi</i> (Peck)	P	2	2	1	2	3	10	3	4
Scolytinae									
Hylesinini									
<i>Scierus annectans</i> LeConte		4	1				5		

Table 1 (continued).

Species	New*	Nova Scotia					Total	PEI	NB
		Northern Shore	Cape Breton	Eastern Shore	South Shore	Bay of Fundy			
<i>Hylurgops rugipennis pinifex</i> (Fitch)	P	2	1	1	2	3	9	1	6
<i>Hylastes porculus</i> Erichson	P	4		1	2	3	10	1	1
<i>Hylastinus obscurus</i> (Marsham)		1					1		
<i>Hylesinus aculeatus</i> Say		3		1	3	3	10		
<i>Hylurgopinus rufipes</i> (Eichhoff)		2	1	1		1	5		5
<i>Xylechinus americanus</i> Blackman		2		1		1	4		
<i>Dendroctonus punctatus</i> LeConte									1
<i>Dendroctonus rufipennis</i> (Kirby)	P	4	3	2	3	3	15	3	2
<i>Dendroctonus simplex</i> LeConte					2	1	3	2	1
<i>Dendroctonus valens</i> LeConte		3		1	2	3	9		2
<i>Phloeotribus liminaris</i> (Harris)	P	1					1		1
<i>Phloeotribus piceae</i> Swaine		3		1			4		1
<i>Phloeosinus canadensis</i> Swaine									4
<i>Phloeosinus pini</i> Swaine	P	1					1		
<i>Polygraphus rufipennis</i> (Kirby)		4	3	2	4	4	17	3	6
<i>Carphoborus carri</i> Swaine									1
<i>Carphoborus dunnii</i> Swaine									1
Scolytini									
<i>Scolytus multistriatus</i> (Marsham) [‡]	P					1	1		1
<i>Scolytus piceae</i> (Swaine)	P	1	1		1		3		2
<i>Scolytus rugulosus</i> (Müller) [‡]	P					1	1	1	1
<i>Pityogenes hopkinsi</i> Swaine		2	1	2	3	1	9		4
<i>Pityokteines sparsus</i> (LeConte)		3	2	2	2	2	11	1	5
<i>Orthotomicus caelatus</i> (Eichhoff)	P	4	1	2	2	3	12	2	7
<i>Ips borealis</i> Swaine	P	4	3	1	2	1	11	3	2
<i>Ips calligraphus</i> (Germar)									
<i>Ips grandicollis</i> (Eichhoff)	P	1		1	1	2	5		
<i>Ips perroti</i> Swaine									1
<i>Ips perturbatus</i> (Eichhoff)									2
<i>Ips pini</i> (Say)		1		1	2	2	6		5
<i>Lymantria decipiens</i> (LeConte)	P				3		3		
<i>Dryocoetes affaber</i> (Mannerheim)	P	4	2	2	3	3	14	3	5
<i>Dryocoetes autographus</i> (Ratzeburg)	P	4	2	2	4	4	16	2	4
<i>Dryocoetes betulae</i> Hopkins		1		2	1	1	5		5
<i>Dryocoetes granicollis</i> (LeConte)									
<i>Crypturgus borealis</i> Swaine	P	4	2	2	4	2	14	1	3
<i>Crypturgus pusillus</i> (Gyllenhal) [‡]		1	2	2	3	2	10	2	4
<i>Trypodendron betulae</i> Swaine		3		2	1	1	7	1	1
<i>Trypodendron lineatum</i> (Olivier) [†]		4	3	2	3	3	15	1	3
<i>Trypodendron retusum</i> (LeConte)	P	1				1	2		2
<i>Trypodendron rufitarsis</i> (Kirby)				2	1	2	5		3
<i>Xyloterinus politus</i> (Say)	P	4	2	2	2	2	12	1	2
<i>Xyleborus dispar</i> (Fabricius)		4	4	2	2	3	15		
<i>Xyleborus obesus</i> LeConte	P	3					3		
<i>Xyleborus sayi</i> (Hopkins)	P	1		2	2	1	6		
<i>Xyleborinus saxeseni</i> (Ratzeburg)	P	1			2	2	5		
<i>Trypophloeus populi</i> Hopkins									1
<i>Trypophloeus striatulus</i> (Mannerheim)						1	1		

Table 1 (concluded).

Species	New*	Nova Scotia					Total	PEI	NB
		Northern Shore	Cape Breton	Eastern Shore	South Shore	Bay of Fundy			
<i>Cryphalus ruficollis ruficollis</i> Hopkins		4		2	1	2	9		2
<i>Conophthorus coniperda</i> (Schwartz)		1		1	1	1	4		3
<i>Conophthorus resinosae</i> Hopkins		1			1	1	3		3
<i>Pseudopityophthorus minutissimus</i> (Zimmerman)	P			1	2		3		
<i>Pityophthorus angustus</i> Blackman				1			1		1
<i>Pityophthorus balsameus</i> Blackman		2		2	3	1	8		2
<i>Pityophthorus biovalis</i> Blackman		2		1	1	1	5		
<i>Pityophthorus briscoei</i> Blackman									1
<i>Pityophthorus carinatus carinatus</i> Bright	P	2		1		1	4		1
<i>Pityophthorus cariniceps</i> LeConte		1		1		2	4		4
<i>Pityophthorus concavus</i> Blackman		1		1			2		1
<i>Pityophthorus consimilis</i> LeConte				1			1		
<i>Pityophthorus dentifrons</i> Blackman		3		2		1	6	2	2
<i>Pityophthorus intextus</i> Swaine					2	1	3		1
<i>Pityophthorus murrayanae</i> Blackman									1
<i>Pityophthorus nitidus</i> Swaine		2		2			4		4
<i>Pityophthorus opaculus</i> LeConte		1		1		3	5		2
<i>Pityophthorus puberulus</i> (LeConte)				2	1	3	6		3
<i>Pityophthorus pulchellus</i> Eichhoff			1				1		5
<i>Pityophthorus pulicarius</i> (Zimmerman)		1	1			1	3		2
<i>Pityophthorus ramiperda</i> Swaine	P					1	1		
<i>Gnathotrichus materarius</i> (Fitch)		4	1	2	3	3	13		4
<i>Monarthrum mali</i> (Fitch)	P	4	1	1	3	2	11		2
<i>Corthylus columbianus</i> Hopkins	A				1		1		
Total no. of county records		313	197	202	223	292	1227	157	474
Total no. of species		142	99	148	126	158	244	92	206

Note: Districts in Nova Scotia consist of the following counties: Northern Shore: Antigonish, Cumberland, Colchester, Pictou; Cape Breton: Cape Breton, Inverness, Richmond, Victoria; Eastern Shore: Guysborough, Halifax, Sable Island; South Shore: Lunenburg, Queens, Shelburne, Yarmouth; Bay of Fundy: Annapolis, Digby, Hants, Kings. Sable Island, while nominally a part of Halifax County, is geographically and biologically a distinct unit and therefore is treated separately. There are 3 counties on Prince Edward Island and 15 counties in New Brunswick. Species listed in shaded cells have been removed from the region's fauna. Information on species occurring in New Brunswick is from Majka *et al.* (2007b) and unpublished data.

*P, new provincial records (Nova Scotia and/or Prince Edward Island) reported herein; A, species reported for the first time in Atlantic Canada and/or Canada as a whole.

[†]Holarctic species.

[‡]Palaearctic species.

[§]Oriental species.

Table 2. Adventive Curculionoidea in the Maritime Provinces: earliest recorded dates of detection.

Species	NB	NS	PEI	North America	Possible mode of introduction
APIONIDAE					
Apioninae					
<i>Perapion curtirostre</i>	2002	2001	2002	ME: 1968	Dry ballast? horticulture?
<i>Omphalapion hookerorum</i>		1990		NS: 1990	Dry ballast?
<i>Rhopalapion longirostre</i>		2002		GA: 1914	Horticultural trade
CURCULIONIDAE					
Dryophthorinae					
<i>Sitophilus granarius</i>	1970	1910	1975	USA: <1876	Synanthropic: dried products
<i>Sitophilus oryzae</i>		1954	1994	MA: ~1670	Synanthropic: dried products
Curculioninae					
<i>Gymnetron antirrhini</i>	1978	1930	1960	MA: 1909	Dry ballast?
<i>Gymnetron pascuorum</i>		1994	2002	MD: 1956	Dry ballast?
<i>Gymnetron tetrum</i>	1900–1907	1907	2003	USA: <1916	Dry ballast?
<i>Mecinus janthinus</i>		1995		BC: 1991	Intentional: biocontrol
<i>Isochnus populicola</i>	1978	1977	1996	NJ: 1922	Nursery stock importation?
<i>Tychius meliloti</i>	1978	1988	1995	QC: 1975	
<i>Tychius picirostris</i>	1977	1956	1953	NY: 1908	Dry ballast
<i>Tychius stephensi</i>	1940	1942	1960	CT: 1913	Dry ballast
Baridinae					
<i>Orchidophilus aterrimus</i>		1984		NY: >1982	Horticultural trade
Ceutorhynchinae					
<i>Amalus scortillum</i>	1999	1961		NY: 1923	Dry ballast?
<i>Ceutorhynchus erysimi</i>	1979	1965	1998	OH: 1922	Dry ballast?
<i>Ceutorhynchus pallidactylus</i>		1994		USA: ~1900	Dry ballast?
<i>Ceutorhynchus typhae</i>	1979	1957		NF, NS: 1957	Dry ballast?
<i>Glocianus punctiger</i>	1940	1945	1970	?	
<i>Hadroplontus litura</i>		1988		NS: 1988	Intentional: biocontrol
<i>Rhinoncus castor</i>	1900–1907	1946	1960	NJ: 1895	Dry ballast?
<i>Rhinoncus pericarpus</i>	2003	1968	2001	MA: 1928	Dry ballast?
Entiminae					
<i>Strophosoma melanogrammum</i>		1924		NJ: 1885	Terricolous: dry ballast
<i>Philopedon plagiatum</i>	1939	1970	1940	QC: 1934	Terricolous: dry ballast
<i>Barynotus moerens</i>		1946		NS: 1946	Terricolous: dry ballast
<i>Barynotus obscurus</i>	1898	~1890	1953	NF: 1839–1842	Terricolous: dry ballast
<i>Barynotus schoenherri</i>	1939	1884	1965	NF: 1876	Terricolous: dry ballast
<i>Otiorhynchus ligneus</i>	1917	1927	1962	NB: 1917	Terricolous: dry ballast
<i>Otiorhynchus ovatus</i>	1900	1884	1952	NF: 1839–1842	Terricolous: dry ballast
<i>Otiorhynchus raucus</i>		2002		ON: 1936	Terricolous: dry ballast
<i>Otiorhynchus rugifrons</i>	1900	1884		NS: 1884	Terricolous: dry ballast
<i>Otiorhynchus rugostriatus</i>		1914		NS: 1914	Terricolous: dry ballast
<i>Otiorhynchus scaber</i>		1957		NS: 1957	Terricolous: dry ballast
<i>Otiorhynchus singularis</i>	~1937	1937	2001	MA: 1872	Dry ballast
<i>Otiorhynchus sulcatus</i>	1907	1884	1953	MA: 1831	Terricolous: dry ballast
<i>Phyllobius intrusus</i>	2005			RI: 1949	Nursery stock importation?
<i>Phyllobius oblongus</i>	1928	1970	~1974	NY: 1923	Nursery stock importation?
<i>Polydrusus cervinus</i>		2002	2001	NH: 1963	Nursery stock importation?
<i>Polydrusus impressifrons</i>	1994	1965		NY: 1913	Nursery stock importation?
<i>Polydrusus sericeus</i>	1991	1996	2001	CT: 1934	Nursery stock importation
<i>Barypeithes pellucidus</i>	2002	1949	1976	USA: <1916	Terricolous: dry ballast
<i>Sciaphilus asperatus</i>	~1939	1884	1957	NS: 1884	Terricolous: dry ballast
<i>Sitona cylindricollis</i>	1939	~1939		QC: 1924	Dry ballast

Table 2 (concluded).

Species	NB	NS	PEI	North America	Possible mode of introduction
<i>Sitona flavescens</i>	1902	1928	1962	NF: 1839–1842	Dry ballast
<i>Sitona hispidulus</i>	1940	1926	1961	NJ: 1875	Dry ballast
<i>Trachyploeus aristatus</i>		2003	2005	ON: 1964	
<i>Trachyploeus asperatus</i>		1924		MA: 1843	Terricolous: dry ballast
<i>Trachyploeus bifoveolatus</i>	1928	1936	1948	NY: 1917	Terricolous: dry ballast
<i>Tropiphorus obtusus</i>		1933		NS: 1933	Terricolous: dry ballast
<i>Tropiphorus terricola</i>	1990	1913	1936	NS: 1913	Terricolous: dry ballast
Hyperinae					
<i>Hypera meles</i>	1939	1951	1964	NY: 1907	
<i>Hypera nigrirostris</i>	1901	1917	1957	MA: 1873	
<i>Hypera postica</i>	1977	1981	1961	UT: 1902	In straw packing materials
<i>Hypera zoilus</i>	1902	1924	1961	QC?: 1853	
Lixinae					
<i>Larinus planus</i>		1992		USA: <1968	Intentional: biocontrol
<i>Cleonis pigra</i>	1947			NY: 1929	
Molytinae					
<i>Hylobius transversovittatus</i>		1992		AB, BC, MB, NS: 1992	Intentional: biocontrol
Scolytinae					
<i>Scolytus multistriatus</i>	1975	2001		MA: 1909	Nursery stock importation
<i>Scolytus rugulosus</i>	1960	1946	2002	NY: 1878	Nursery stock importation
<i>Crypturgus pusillus</i>	1910	1911	~1976	NY: 1868	Importation of lumber?

Note: The earliest known years of collection in each province are given. Entries indicated in boldface are the earliest records in the region. In North America the earliest known dates and the jurisdictions where the specimens were collected are given.

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Appendix A

Species of Curculionoidea recorded in all five subregions of Nova Scotia.

Temnocerus cyanellus
Anthonomus musculus
Anthonomus quadrigibbus
Anthonomus signatus
Pseudanthonomus validus
Isochnus populicola
Orchestes mixtus
Orchestes pallicornis
Tychius picirostris
Tychius stephensi
Ceutorhynchus hamiltoni
Carphonotus testaceus
Rhyncolus brunneus
Strophosoma melanogrammum
Barynotus obscurus

Otiorhynchus ligneus
Otiorhynchus ovatus
Otiorhynchus rugostriatus
Otiorhynchus singularis
Otiorhynchus sulcatus
Barypeithes pellucidus
Sciaphilus asperatus
Sitona hispidulus
Sitona flavescens
Sitona lineellus
Trachyphloeus bifoveolatus
Tropiphorus terricola
Hypera meles
Hypera nigrirostris
Hypera zoilus
Conotrachelus nenuphar
Hylobius congener
Hylobius pinicola
Piazorhinus scutellaris
Pissodes fiskei
Pissodes strobi
Hylurgops rugipennis pinifex
Dendroctonus rufipennis
Polygraphus rufipennis
Pityogenes hopkinsi
Pityokteines sparsus
Orthotomicus caelatus
Ips borealis
Dryocoetes affaber
Dryocoetes autographus
Crypturgus borealis
Crypturgus pusillus
Trypodendron lineatum
Xyloterinus politus
Xyleborus dispar
Gnathotrichus materarius
Monarthrum mali

Appendix B

Possible “disjunct” species of native Curculionoidea recorded in Nova Scotia but not elsewhere in Atlantic Canada or northern New England. Information is derived from Chandler (2001), Dearborn and Donahue (1993), Majka et al. (2007b), McNamara (1991a, 1991b, 1991c, 1991d), O’Brien and Wibmer (1982), and Wood (1982).

Trigonorhinus limbatus
Coelocephalapion carinatum
Sphenophorus a. aequalis
Sphenophorus striatipennis
Anthonomus pictus
Dorytomus marmoreus

Dorytomus rufulus
Bagous transversus
Ceutorhynchus oregonensis
Himatium errans
Phloeophagus apionides
Phloeosinus pini
Corthylus columbianus

Appendix C

Other species (in addition to those listed in Appendix B) of native Curculionoidea recorded in Nova Scotia but not in New Brunswick.

Cimberis pallipennis
Allandrus populi
Eurymycter latifascia
Attelabus bipustulatus
Neapion frosti
Trichapion centrale
Coelocephalapion emaciipes
Sphenophorus cariosus
Sphenophorus parvulus
Sphenophorus zeae
Onychylis nigrirostris
Tanysphyrus lemnae
Curculio iowensis
Anthonomopsis mixta
Anthonomus haematopus
Anthonomus musculus
Anthonomus subfasciatus
Pseudanthonomus seriesetosus
Dorytomus brevicollis
Dorytomus laticollis
Dorytomus luridus
Bagous restrictus
Madarellus undulatus
Cylindridia prolixa
Perigaster liturata
Lechriops oculata
Cossonus americanus
Stenoscelis brevis
Rhyncolus macrops
Listronotus dietzi
Listronotus o. oregonensis
Magdalis barbata
Magdalis perforata
Magdalis piceae
Magdalis salicis
Sthereus ptinoides
Conotrachelus posticatus
Piazorhinus pictus
Scierus annectans
Hylastinus obscurus
Hylesinus aculeatus

Xylechinus americanus
Phloeosinus pini
Ips grandicollis
Lymantor decipiens
Xyleborus dispar
Xyleborus obesus
Xyleborus sayi
Xyleborinus saxeseni
Trypophloeus striatulus
Pseudopityophthorus minutissimus
Pityophthorus biovalis
Pityophthorus consimilis
Pityophthorus ramiperda

Appendix D

Native species of Curculionoidea recorded in New Brunswick but not in Nova Scotia.

Cimberis pilosa
Allandrus bifasciatus
Eurymycter fasciatus
Trigonorhinus sticticus
Trichapion nigrum
Trichapion reconditum
Fallapion finitimum
Grypus equiseti
Anthonomus interstitialis
Anthonomus rutilus
Anthonomus simiolus

Proctorus armatus
Dorytomus vagenotatus
Tachyerges niger
Smicronyx corniculatus
Lignyodes helvolus
Bagous nebulosus
Cosmobaris americana
Ceutorhynchus semirufus
Auleutes tenuipes
Cnemogonus lecontei
Perigaster cretura
Mononychus vulpeculus
Cossonus platalea
Eubulus parochus
Tyloderma nigrum
Listronotus alternatus
Listronotus caudatus
Listronotus humilis
Listronotus laramiensis
Listronotus tuberosus
Scaphomorphus calandroides
Conotrachelus anaglypticus
Dendroctonus punctatus
Phloeosinus canadensis
Carphoborus carri
Carphoborus dunni
Ips perroti
Ips perturbatus
Trypophloeus populi
Pityophthorus murrayanae