



NEW RECORDS

Arrenodes minutus (Drury, 1770) (Coleoptera: Brentidae) discovered in the Maritime Provinces of Canada

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Brentidae are large, elongate weevils found under the bark of various dead and dying deciduous trees. Females excavate a hole with their rostrum into which they deposit their eggs. Larvae bore deep into the heartwood where they appear to feed on wood and fungal mycelia (Anderson and Kissinger 2002). In North America the family is represented by five species in five genera. Three of these are found in southern Florida, and one in southern Texas. *Arrenodes minutus* (Drury, 1770) ranges throughout the eastern United States, north to southern Ontario and Québec (McNamara 1991; Laplante et al. 1991; Anderson and Kissinger 2002). Colloquially known as the “oak timberworm,” larvae of *A. minutus* are frequently found boring in oaks (*Quercus* spp.) and other hardwoods. Adults feed at sap flows on oaks. Males are territorial and aggressive with one another and guard females during egg laying (Buchanan 1960; Sanborne 1983).

When Majka et al. (2007) surveyed the introduced Apionidae (pear-shaped weevils) and Brentidae (straight-snouted weevils) of the Maritime Provinces, they reported a specimen of *Arrenodes minutus* intercepted in Nova Scotia in wooden furniture imported from Indiana in the United States. Recently, specimens of *A. minutus* have been found in both New Brunswick and Nova Scotia (Figs. 1-2) that establish the presence of this species, and hence the family Brentidae, in the Maritime Provinces.

NEW BRUNSWICK: Carleton Co: Jackson Falls “Bell Forest”, 46.2210°N, 67.7210°W, 7.VI.2007, R. Webster, under bark of large (0.75 m diameter) fallen basswood, (5♂, 1♀, R. Webster Collection); locality as above, 26.VI.2007, R. Webster, mv light 30 m from fallen basswood, (1♂, 1♀, R. Webster Collection); locality as above, 26.VI.2007, R. Webster, on trunk of fallen basswood at night, (2♀, R. Webster Collection); locality as above, 25.VII.2007, R. Webster, mv light, (1♀, R. Webster Collection); locality as above, 8.VII.2008, R. Webster, mv light, (2♀, R. Webster Collection); locality as above, 8.VII.2008, R. Webster, on standing section of dead basswood at night (2♀, R. Webster Collection). **NOVA SCOTIA: Queens Co.:** Lake McGowan, 44°25.176'N, 65°03.503'W, 2.VII.2008, K. Neil, (1♂, 1♀, K. Neil Collection).

Figure 3 shows both localities where specimens were collected in the Maritime Provinces, as well as locations in neighbouring jurisdictions of northeastern North America (Dearborn and Donahue 1993; Downie and Arnett 1996; Chandler 2001; Sikes 2004; C. Chantal, Association des entomologistes amateurs du Québec, personal communication; D. Sikes, University of Alaska Museum, personal communication).

Bell Forest is a part of the Meduxnekeag Valley Nature Preserve in Carleton County, New Brunswick. It has been identified as one of the best surviving examples of a rich Appalachian hardwood forest in New Brunswick, a forest-type found on rich calcareous soils in sheltered areas in the central Saint John River valley. Two centuries of land clearance have reduced this once widespread woodland to a series of small isolated patches. Basswood (*Tilia americana* L., (Tiliaceae)), butternut (*Juglans cinerea* L., (Juglandaceae)), white ash (*Fraxinus americana* L. (Oleaceae) and ironwood (*Ostrya virginiana* (Mill.) Koch (Betulaceae)) are marker trees of this forest with a rich under-story of herbaceous plants such as pointed-leaf tick trefoil (*Desmodium glutinosum* (Muhl.) (Fabaceae)), bottlebrush grass (*Hystrix patula*

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Fig. 1. Dorsal (a) and lateral (b) habitus of female *Arrenodes minutus* (Drury) collected at Lake McGowan, NS. Photo credit: Christopher Majka, Nova Scotia Museum.

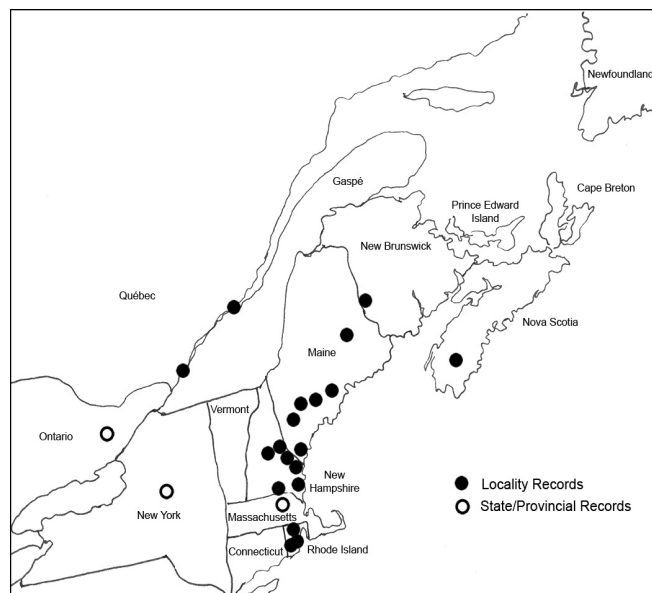


Moench. (Poaceae)), Canada violet (*Viola canadensis* L. (Violaceae)), black snakeroot (*Sanicula odorata* (Raf.) (Apiaceae)), northern wild comfrey (*Cynoglossum boreale* Fern. (Boraginaceae)), nodding fescue (*Festuca obtusa* Biehler (Gramineae)), and plantain-leaved sedge (*Carex plantaginea* Lam. (Cyperaceae)) that are otherwise very rare in New Brunswick (MacDougall and Loo 1998; Betts 1999; Meduxnekeag River Association 2005). Noteworthy at this site are the collections of *A. minutus* on basswood a host not previously reported for this species.

Lake McGowan in Nova Scotia is located near the northern edge of the Mersey Meadows biophysical landscape district (412a), an area whose natural vegetation appears to have originally been white pine (*Pinus strobus*

L. (Pinaceae)) in deeper soil areas with red oak (*Quercus rubra* L., (Fagaceae)) on the ridges (Davis and Browne 1997). Lake McGowan itself is in the Lake Rossignol Wilderness Area. This area of southwestern Nova Scotia has a distinctive biophysical character and some of the mildest environmental conditions in the region. A number of species of Coleoptera such as *Microgoes oculatus* (LeConte, 1862) (Cerambycidae), *Malacocis brevicollis* (Casey, 1898) (Ciidae), *Lasconotus borealis* Horn, 1878 (Colydiidae), *Agathidium oniscoides* Beauvois, 1908 (Leiodidae), *Lopheros fraternus* (Randall, 1838) (Lycidae), *Mycetophagus serrulatus* Casey, 1900 (Mycetophagidae), and *Scaphisoma rubens* Casey, 1893 (Staphylinidae) which are very seldom collected in Nova Scotia have been found

Fig. 2. Distribution of *Arrhenodes minutus* (Drury) in northeastern North America.



in the Lake Rossignol area (Dollin et al. 2008). Extensive areas of the Mersey Meadows district forests have been burned leaving a regenerating mixed forest, and barren and semi-barren areas colonized by huckleberry (*Gaylussacia* spp., (Ericaceae)), low shrubs, and black spruce (*Picea mariana* (Mill.) BSP, (Pinaceae)) (Davis and Browne 1997).

It is fortunate that both sites where *A. minutus* has been found are in protected areas. It would, however, be desirable to survey undisturbed forest habitats in the Maritime Provinces to better ascertain the extent of this species' distribution in the region, and consequently to better discern what measures might be required to assure its continued presence and welfare in the region.

A taxonomic note: Anderson and Kissinger (2002) included the Apioninae as a subfamily of the Brentidae, following the family-level classification of Lawrence and Newton (1995). Alonso-Zarazaga and Lyal's (1999) world catalogue of the Curculionoidea, however, treats the Apionidae as distinct from the Brentidae. We follow the position of Alonso-Zarazaga and Lyal (1999) in treating these as separate families. Also the generic name *Arrhenodes* Schönherr, 1826 has often been employed in the past, however, this has been relegated to a junior synonym of *Arrhenodes* Schönherr, 1823 (Anderson and Kissinger 2002).

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