



The Elateridae (Coleoptera) of the Maritime Provinces of Canada: faunal composition, new records, and taxonomic changes

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Abstract

The Elateridae in the Maritime Provinces of Canada is surveyed. One hundred and twenty-five species have been recorded, 110 in Nova Scotia, 98 in New Brunswick, and 48 on Prince Edward Island. Of these, 117 are Nearctic, four are Holarctic, and four are introduced Palaeartic species. Twenty-four species are newly recorded in Nova Scotia, 13 in New Brunswick, and 27 on Prince Edward Island, for a total of 64 new provincial records. Fourteen species including *Dalopius gentilis* Brown, *Dalopius pennsylvanicus* Brown, *Ampedus areolatus* (Say), *Ampedus laesus* (LeConte), *Ampedus nigricollis* (Herbst), two undescribed species of *Ampedus*, *Aeolus mellillus* (Say), *Athous posticus* (Melsheimer), *Athous productus* (Randall), *Athous scapularis* (Say), *Hypoganus sulcicollis* (Say), *Sylvanelater mendax* (LeConte), and *Negastrius exiguus* (Randall) are newly recorded in the Maritime Provinces as a whole, and one species, *Dalopius pennsylvanicus*, is newly recorded in Canada. Two species are removed from the faunal list of New Brunswick and two from the faunal list of Nova Scotia.

Taxonomic changes proposed are: *Anostirus vernalis* (Hentz), **new combination**; *Anostirus bipunctatus* (Brown), **new combination**; *Anostirus exclamationis* (Fall), **new combination**; *Beckerus* **new genus**; *Beckerus appressus* (Randall), **new combination**; *Beckerus barri* (Lane), **new combination**; *Corymbitodes dorothyae* (Knull), **new combina-**

tion; *Corymbitodes elongaticollis* (Hamilton), new combination; *Corymbitodes moerens* (LeConte), new combination; *Corymbitodes pygmaeus* (Van Dyke), new combination; *Corymbitodes tarsalis* (Melsheimer), new combination; *Corymbitodes xanthomus* (Horn), new combination; *Metanomus blaisdelli* (Van Dyke), new combination; *Metanomus insidiosus* (LeConte), new combination; *Metanomus shastensis* (Van Dyke), new combination; *Nitidolimonius* new genus; *Nitidolimonius appalachius* (Van Dyke), new combination; *Nitidolimonius breweri* (Horn), new combination; *Nitidolimonius resplendens* (Eschscholtz), new combination; *Nitidolimonius weidtii* (Angell), new combination; *Paractenicera* new genus; *Paractenicera exilis* (Notman), new combination; *Paractenicera fulvipes* (Bland), new combination; *Pseudanostirus hamatus* (Say), new combination; *Sylvanelater*, new genus; *Sylvanelater cylindriciformis* (Herbst), new combination; *Sylvanelater furtivus* (LeConte), new combination; *Sylvanelater limoniiiformis* (Horn), new combination; *Sylvanelater mendax* (LeConte), new combination; and *Elater viridis* Say is regarded as a *nomen dubium*.

Key words: Coleoptera, Elateridae, *Actenicerus*, *Anostirus*, *Beckerus*, *Corymbitoides*, *Metanomus*, *Nitidolimonius*, *Paractenicera*, *Pseudanostirus*, *Sylvanelater*, new genus, New Brunswick, Nova Scotia, Prince Edward Island, Maritime Provinces, Canada, biodiversity, biogeography, saproxylic insects, rare species, forest management impacts, taxonomic revision.

Introduction

The Elateridae (click beetles) constitute a diverse and species-rich family of beetles. According to Johnson (2002) it is the ninth most taxonomically diverse beetle family globally with about 965 valid species in North America, a number that Marske & Ivie (2003) used to rank it as the seventh-most species rich family in North America. The larvae of some elaterids are important in agriculture as rhizophagous species that feed on underground parts of a variety of plants, and in silvicultural contexts as saproxylic species that feed on wood decaying organisms or as predators in woodland environments. Despite this much remains to be learned about the Elateridae. Diverse genera such as *Ampedus*, *Limonius*, *Cardiophorus*, and *Dalopius* are still in need of revisionary study, and phylogenetic study for most taxa is lacking (Johnson 2002). The bionomics of many species are little, if at all known, with fewer than 20% of the known North American species having descriptions of associated larvae. The fauna of the Maritime Provinces of Canada (New Brunswick, Nova Scotia, and Prince Edward Island) has received some past attention, however, its composition is still imperfectly known. In the present study we examine recent collections of Elateridae as well as historical specimens in collections in the region with the intent of improving our understanding of this family in the Maritime Provinces.

Historical Review

In the first account of beetles in the Maritime Provinces, Kirby (1837) described two species, *Pedetes brightwelli* (= *Athous*) and *Pedetes ruficornis* (= *Hemicrepidius memnonius* (Herbst)) from Nova Scotia based on specimens collected by Captain Basil Hall (circa 1827). Subsequently Jones (1869) recorded *Ampedus nigricollis* (Herbst), *Melanotus castanipes* (Paykull), *Pseudanostirus hieroglyphicus* (Say), *Hemicrepidius memnonius*, *Selatosomus appropinquans* (Randall), and "four or five other species (of Elateridae) of small size, undetermined," from Nova Scotia. Evans (1899) recorded *Conoderus auritus* (Herbst), *Agriotes mancus* (Say), *Agriotes limosus* (LeConte), *Agriotella bigeminata* (Randall), *Melanotus similis* (Kirby), *Liotrichus spinosus* (LeConte), *Sylvanelater cylindriciformis* (Herbst), and a species of *Dalopius* (reported as *D. lateralis* Eschscholtz prior to Brown's (1934) revision of the genus, and thus doubtless another species in this genus) from Halifax, Nova Scotia.

In the twentieth Century Gorham (1924), Brown (1933a, 1933b, 1934, 1935a, 1935b, 1936a, 1936b, 1936c, 1940), Eidt (1953, 1954), Becker (1956, 1971, 1974), Stibick (1990), Wells (1996), and Douglas