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RESEARCH ARTICLE

BEETLE (COLEOPTERA) SPECIES NEW TO THE GEORGE WASHINGTON MEMORIAL PARKWAY, INCLUDING SPECIES NEW TO VIRGINIA AND THE DISTRICT OF COLUMBIA

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ABSTRACT

Thirty-four beetle species in the families Anamorphidae, Anthribidae, Buprestidae, Carabidae, Cerambycidae, Chrysomelidae, Cleridae, Eucnemidae, Latridiidae, Ptinidae, and Scarabaeidae are reported for the first time from the George Washington Memorial Parkway, a National Park site in northern Virginia. Five species represent the first published records for Virginia and two are the first records for the District of Columbia. Twelve species are first records for the Potomac Gorge. Images of five species new to Virginia or the District of Columbia are provided, including the first published images of *Gambrinus olentangyi* (Knull).

Keywords: biodiversity, Fairfax County, national parks, new state records, Potomac Gorge.

Introduction

In a continuing effort to document the beetle (Coleoptera) fauna of the George Washington Memorial Parkway (GWMP), a National Park site, additional Malaise traps were deployed at three sites in Fairfax County, Virginia, and one site in the District of Columbia. During 2019, Malaise traps were set in Turkey Run Park within an herbaceous dominated strip under a powerline bordered by mature deciduous woodland with some pine. During 2021, Malaise traps were deployed north of Mount Vernon under stands of Virginia pine (*Pinus virginiana Mill.*) in forest dominated by American beech (*Fagus grandifolia Ehrh.*) and oaks (*Quercus L. spp.*). During 2022, a trap was set in Great Falls Park at Lock Two in an herbaceous dominated strip lined on both

sides by deciduous woodland. Also during 2022, traps were set in the District of Columbia on Theodore Roosevelt Island in freshwater tidal marsh containing bald cypress (*Taxodium distichum* (L.) Rich.) and red maple (*Acer rubrum* L.). Malaise trap sampling was supplemented by occasional collecting by hand at many sites within GWMP. Additionally, older samples from various collection efforts within GWMP as characterized by Steury (2018a) were checked and a review of specimens in the pinned collection maintained at the Turkey Run Park Headquarters in McLean, Virginia continue to yield species previously unrecorded from GWMP.

This paper reports 34 beetle species in 12 families previously undocumented from the George Washington Memorial Parkway (GWMP). Five of these species, *Parelaphidion aspersum* (Haldeman) (Cerambycidae), *Elathous discalceatus* (Say) and *Gambrinus olentangyi* (Knull) (both Elateridae), *Stephostethus liratus* (Leconte) (Latridiidae), and *Eucrada humeralis* (Melsheimer) (Ptinidae) are first records for Virginia. Two species, *Anamorphus pusillus* LeConte (Anamorphidae) and *Anisodactylus furvus* LeConte (Carabidae) are new records for the District of Columbia. Twelve species marked with an asterisk (*) in the list of species below represent records new to the Potomac Gorge (Theodore Roosevelt Island is located at the mouth of the Potomac Gorge). New gorge records are based on reviews of Brown (2008) and other literature provided in the list of species. The Potomac Gorge is a steeply sided, 24 km (14.9 mi), reach of the Potomac River dividing this section of Maryland from Virginia.

All specimens are deposited in the collection maintained at GWMP, Turkey Run Park Headquarters, McLean, Virginia. The number of specimens collected is given in parentheses after the name of the collector.

LIST OF SPECIES VIRGINIA OR DISTRICT OF COLUMBIA

Anamorphidae

*Anamorphus pusillus LeConte (Fig. 1) – District of Columbia: Theodore Roosevelt Island, freshwater tidal marsh, Malaise trap, 11 August–13 September 2022, B. Steury (1). **NEW DISTRICT RECORD.** This species is previously recorded only from Florida, Maryland, and Oklahoma (Shockley et al., 1999).

This record increases the number of anamorphid beetles documented from GWMP to two species (Steury, 2018a).

Anthribidae

*Anthribus nebulosus Forster – Fairfax Co.: Turkey Run Park, splashed from riverbank vegetation north of Dead Run mouth, 19 May 2021, B. Steury, (1). District of Columbia: Theodore Roosevelt Island, freshwater tidal marsh, Malaise trap, 18 May–13 June 2022, B. Steury (1). This species was introduced from Europe to North America (Virginia) in the late 1970's for potential control of pest scale insects and their eggs (Hoebeke & Wheeler, 1991).

*Ormiscus quadrimaculatus (Pierce) – Fairfax Co.: Great Falls Park, Lock Two, Malaise trap, 21 June–14 July 2022, B. Steury (1).

These records increase the number of fungus weevils reported from GWMP to 14 species (Steury et al., 2020).



Figure 1. *Anamorphus pusillus* LeConte. **Left:** dorsal habitus; **right:** head, pronotum, and elytral base. Captured in a Malaise trap set on Theodore Roosevelt Island from 11 August–13 September 2022 in freshwater tidal marsh. Collector B. Steury. Body length 1.2 mm.

Buprestidae

*Brachys ovatus (Weber) – Fairfax Co.: Turkey Run Park, Malaise trap set under a powerline in an herbaceous strip bordered by deciduous woodland with some pine, 15–30 May 2019, B. Steury, (1♀).

Buprestis lineata Fabricius – Fairfax Co.: Malaise trap set under a stand of Virginia pine in mixed deciduous/coniferous woodland just north of Mount Vernon, 17 May–14 June 2021, B. Steury, (1); same data but 1–31 August, (1).

Buprestis striata Fabricius – Fairfax Co.: Malaise trap set under a stand of Virginia pine in mixed deciduous/coniferous woodland just north of Mount Vernon, 14 June–8 July 2021, B. Steury, (1).

These records increase the number of metallic wood-boring beetles from GWMP to 32 species (Steury, 2018b).

Carabidae

*Amara cupreolata Putzeys – Fairfax Co.: Turkey Run Park, splashed from silt-packed leaf litter on sandbar north of Dead Run mouth, 10 May 2021, B. Steury, (1).

Anisodactylus furvus LeConte – District of Columbia: Columbia Island, found dead on paved trail, 7 June 2021, B. Steury (1). **NEW DISTRICT RECORD.** This is the first record of this species

from the District of Columbia (Bousquet, 2012). Images of the specimen are posted on the BugGuide Website (image number 2127010).

*Bembidion paraenulum Maddison (Fig. 2) – Fairfax Co.: Turkey Run Park, netted on moist, silty sandbar in Potomac River north of the mouth of Dead Run, 10 May 2021, B. Steury, (1). This species also represents a northward range extension in Virginia of 174 km (108 mi) from Bedford County (Maddison & Arnold, 2009). Although Bembidion paraenulum has been reported from New Hampshire, it has not been recorded from any East Coast state between Virginia and New Hampshire (Bousquet, 2012). It has a generally southeastern distribution, ranging westward to Texas. The species was recently described by Maddison & Arnold (2009).



Figure 2. *Bembidion paraenulum* Maddison. **Left:** dorsal habitus; **right:** head, pronotum, and elytral base. Turkey Run Park, netted on a moist, silty sandbar in the Potomac River just north of the mouth of Dead Run, 10 May 2021. Collector B. Steury. Body length 4.6 mm.

*Chlaenius niger Randall – District of Columbia: Theodore Roosevelt Island, freshwater tidal marsh, Malaise trap, 11 July–11 August 2022, B. Steury (1).

Chlaenius prasinus Dejean – Fairfax Co.: Turkey Run Park, sandbar north of mouth of Dead Run under driftwood, 17 May 2021, B. Steury, (1).

These records raise the number of ground beetle species documented from GWMP to 206 (Steury, 2021).

Cerambycidae

Lepturges angulatus (LeConte) – Fairfax Co.: Malaise trap set under a stand of Virginia pine in mixed deciduous/coniferous woodland just north of Mount Vernon, 17 May–14 June 2021, B. Steury, (1).

Megacyllene robiniae (Forster) – Fairfax Co.: Great Falls Park, Lock Two, Malaise trap, 11 August–12 September 2022, B. Steury (1).

Monochamus carolinensis (Olivier) – Fairfax Co.: Malaise trap set under a stand of Virginia pine in mixed deciduous/coniferous woodland just north of Mount Vernon, 8–31 July 2021, B. Steury, (1).

Neoclytus mucronatus (Fabricius) – Fairfax Co.: Malaise trap set under a stand of Virginia pine in mixed deciduous/coniferous woodland just north of Mount Vernon, 14 June–8 July 2021, B. Steury, (1); same data but 8–31 July (1).

Parelaphidion aspersum (Haldeman) – Fairfax Co.: Malaise trap set under a stand of Virginia pine in mixed deciduous/coniferous woodland just north of Mount Vernon, 8–31 July 2021, B. Steury, (1). **NEW STATE RECORD.** This is the first published record for Virginia according to the personal database of T. C. MacRae, which is compiled from existing literature on North American Cerambycidae (T. C. MacRae, in litt., 22 September 2021). This species has been recorded northward to Ontario, Canada, south to Florida, and westward to Texas and Iowa (Downie & Arnett, 1996b; as *Elaphidionoides aspersus* [Haldeman]). In addition to the states recorded for this species by Downie & Arnett (1996b), MacRae's database adds Michigan, Mississippi, Missouri, Nebraska, and Wisconsin to the documented range of this species.

*Sternidius mimeticus (Casey) – District of Columbia: Theodore Roosevelt Island, freshwater tidal marsh, Malaise trap, 18 May–13 June 2022, B. Steury (1).

Sternidius punctatus (Haldeman) – Fairfax Co.: Malaise trap set under a stand of Virginia pine in mixed deciduous/coniferous woodland just north of Mount Vernon, 23 April–15 May 2021, B. Steury, (2).

These records increase the number of longhorn beetles documented from the GWMP to 101 species (Steury, 2021).

Chrysomelidae

Glyptoscelis pubescens (Fabricius) – Fairfax Co.: Malaise trap set under a stand of Virginia pine in mixed deciduous/coniferous woodland just north of Mount Vernon, 20 April–17 May 2021, B. Steury, (1).

Meibomeus musculus (Say) – Fairfax Co.: Dyke Marsh, Haul Road, swept from roadside vegetation, 9 June 2021, B. Steury, (1).

Neolema cordata White – Fairfax Co.: Dyke Marsh, Haul Road, swept from roadside vegetation, 7 June 2021, B. Steury, (1).

*Sennius cruentatus (Horn) – Fairfax Co.: Turkey Run Park, Malaise trap set under powerline in herbaceous strip bordered by deciduous woodland with some pine, 22 October–19 November 2019, M. Stirzaker, (1).

These records increase the number of leaf and seed beetles documented from the GWMP to 117 species (Steury, 2021).

Cleridae

Phyllobaenus pallipennis (Say) – Fairfax Co.: Malaise trap set under a stand of Virginia pine in mixed deciduous/coniferous woodland just north of Mount Vernon, 1–31 August 2021, B. Steury, (2).

Thanasimus dubius (Fabricius) – Fairfax Co.: Malaise trap set under a stand of Virginia pine in mixed deciduous/coniferous woodland just north of Mount Vernon, 23 March–20 April 2021, B. Steury, (1).

These specimens increase the tally of checkered beetles documented from GWMP to 21 species (Steury, 2021).

Elateridae

Elathous discalceatus (Say) (Fig. 3) – Fairfax Co.: Malaise trap set under a stand of Virginia pine in mixed deciduous/coniferous woodland just north of Mount Vernon, 1–30 September 2021, B. Steury, (1?). **NEW STATE RECORD.** This is a northeastern species documented south to Pennsylvania by Downie & Arnett (1996a). It is rarely collected in southeastern North America. Mathison (2021) reports one record each from North Carolina and Georgia.



Figure 3. *Elathous discalceatus* (Say). Captured in a Malaise trap set under a stand of Virginia pine in mature woodland of American beech and oak just north of Mount Vernon, 1–30 September 2021. Collector B. Steury. Body length 10.1 mm.

*Gambrinus olentangyi (Knull) (Fig. 4) – Fairfax Co.: Great Falls Park, deciduous woodland, Malaise trap, 1–20 May 2009, B. Steury, (1 \circlearrowleft). **NEW STATE RECORD.** This is the fourth record of this species since it was described from a female collected in Delaware County, Ohio in 1945 (Knull, 1947). Josef Knull later collected two male specimens from the type locality. These two males were examined and discussed by Al Dhafer (2009). This species, along with many other species formerly in the genus *Limonius* were recently transferred to the genus *Gambrinus* by Etzler (2019). This specimen documents an eastward range extension of at least 524.5 km (325.9 mi) (Al Dhafer, 2009; Knull, 1947). An image of the male genitalia is shown in figure 4. Additional images of this specimen can be found on the BugGuide website (image number 2197119). The species is diagnosed by the following combination of anatomical features: length less than 9 mm; head and pronotum black, elytra dark brown with smooth, orangish-brown base and triserially punctate elytral intervals, epipleural margins pale; pronotum shiny, pronotal punctures small, separated by much more than their width, becoming slightly closer laterally; head deeply, coarsely punctate, the punctures contiguous; clypeus truncate (not sinuate or emarginate); antennomeres 2 and 3 smooth and round, together equal to or slightly longer than 4, 4–10 triangularly serrate, 11 slightly elongate; prosternal sutures open anteriorly; ventrites black; legs reddish-brown.

These specimens increase the number of click beetles documented from GWMP to 80 species (Johnson & Steury (2021).



Figure 4. *Gambrinus olentangyi* (Knull). Captured in a Malaise trap set in deciduous woodland in Great Falls Park, 1–20 May 2009. Collector B. Steury. Body length 8.0 mm. **Left to right:** dorsal habitus; head, pronotum, and elytral base; genitalia in situ; and aedeagus.

Eucnemidae

Dromaeolus striatus LeConte – Fairfax Co.: Malaise trap set under a stand of Virginia pine in mixed deciduous/coniferous woodland just north of Mount Vernon, 1–31 August 2021, B. Steury, (1).

Perothops mucida (L.) – Fairfax Co.: Malaise trap set under a stand of Virginia pine in mixed deciduous/coniferous woodland just north of Mount Vernon, 17 May–14 June 2021, B. Steury, (1).

These specimens increase the number of false click beetles from GWMP to 29 species (Johnson & Steury (2021).

Latridiidae

Cartodere constricta (Gyllenhal) – Fairfax Co.: Dyke Marsh Wildlife Preserve, Malaise trap, 1–15 August 1999, E. Barrows, (1). Cartodere constricta is a species of European origin with a cosmopolitan distribution (Downie & Arnett, 1996b).

Enicmus maculatus LeConte – Fairfax Co.: Little Hunting Creek, Malaise trap, 2–20 June 2017, C. Acosta, C. Davis, and B. Steury, (1); same data but 30 April–18 May 2018, B. Steury (1). This species lives on moss-dwelling slime molds (Glime, 2017) and has been collected on conidia associated with an *Hypoxylon* (Ascomycetes: Xylariaceae) growing on the bark of oak (Lawrence & Newton 1980). The only published distributional records for this species are from Michigan, Ohio, and Virginia (Fall, 1899) and Georgia (Lawrence, 1977).

Stephostethus liratus (LeConte) (Fig. 5) – Fairfax Co.: Great Falls Park, Malaise trap, 22 October–17 November 2008, D. Smith, (4). **NEW STATE RECORD.** Stephostethus liratus has a generally northern North American distribution ranging throughout Canada and in the United States from Alaska to California, east to Pennsylvania and south to the District of Columbia and North Carolina (Downie & Arnett, 1996b; Majka et al., 2009). This is the first record for Virginia (Majka et al., 2009).



Figure 5. *Stephostethus liratus* (LeConte). Captured in a Malaise trap set in mature deciduous woodland at Great Falls Park, 22 October–17 November 2008. Collector D. Smith. Body length 2.0 mm.

These three records increase the number of species of minute brown scavenger beetles from GWMP to four species. The only other latridiid beetle documented from GWMP is *Melanophthalma distinguenda* Comolli (Evans, 2008).

Ptinidae

*Eucrada humeralis (Melsheimer) – Fairfax Co.: Turkey Run Park, Malaise trap set under powerline in herbaceous strip bordered by deciduous woodland with some pine, 15–30 May 2019, B. Steury, (1). **NEW STATE RECORD.** Although broadly documented across the eastern United States and Canada including Maryland, Pennsylvania, and the District of Columbia, and recorded west to Iowa (Downie & Arnett, 1996b) this is the first published record for Virginia (Chandler & Steury, 2022).

*Mesocoelopus collaris Mulsant & Rey – District of Columbia, Theodore Roosevelt Island, freshwater tidal marsh, Malaise trap, 18 May–13 June 2022, B. Steury (1). This is a non-native species introduced from Europe (White, 1961).

These records increase the number of death-watch and spider beetles known from GWMP to 43 species (Chandler & Steury, 2022).

Scarabaeidae

*Trigonopeltastes delta Forster – Fairfax Co.: Great Falls Park, collected on wild bergamot (Monarda fistulosa L.), 14 July 2022, B. Steury (1).

This record increases the number of scarab beetles known from GWMP to 68 species (Steury & Paulsen, 2022).

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